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# Clinical Medicine and Surgery

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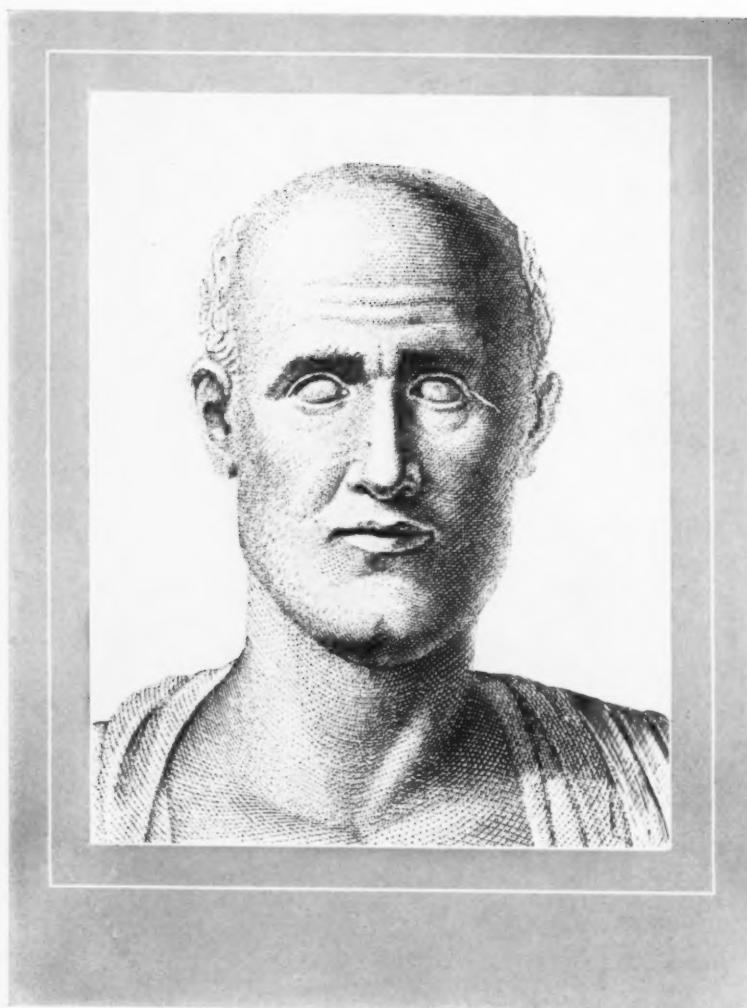
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## ASCLEPIADES

# CLINICAL MEDICINE AND SURGERY

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## Asclepiades

AFTER the destruction of Corinth, Greek medicine migrated to Rome. Prior to that time, according to Pliny the Elder, the Romans had somehow managed to get on without doctors for 600 years, relying, for the treatment of disease, upon herbs, "simples" and various forms of secular and religious magic.

Some of the earlier Greek physicians did little to improve the general opinion of the Romans concerning their guild, and Greek medicine did not become respectable in Rome until it was made so by the personality, tact and superior ability of Asclepiades of Bithynia, who was born about 124 B. C. and has been called "the Father of fashionable physicians."

This unusual man formally repudiated the Hippocratic humoral theory and sailed a professional course midway between those of the Dogmatists and the Empirics. In fact, he founded what is known as the Methodic School of practice, based upon the atomistic hypothesis of Democritus, which taught that the body is made up of atoms, with spaces or pores between them, and that disease is the result of constrictions or relaxations between the solid particles.

As a natural consequence of his opposition to Hippocrates, Asclepiades belittled

the healing power of nature, and taught that the healing art should consist of systematic interference. In practice, however, he had the good judgment to base his therapy upon the old Coan regime (so much like our present-day methods) of fresh air, carefully selected diet, hydrotherapy, massage, exercise, light, enemas, local applications and little in the way of drugs.

He was the first man who ever recommended reasonably civilized and intelligently considered treatment of the insane, and was also the first to mention tracheotomy.

The Coan School of medicine had always considered the patient as a whole, and the Methodic School grew out of it, being opposed by the Empirics, who studied symptoms alone, without attempting to correlate them.

It would appear that, while Asclepiades was a remarkably able and successful clinician, he was not a gifted teacher, for the salutary influence of his strong and helpful personality did not long survive his death, which occurred about the year 40 B. C. His pupils first erected his teachings into a formalized doctrine and then wandered off into the bypaths of pneumatism and other weird theories.

It is good for those who have the idea that the present generation has a corner on medical wisdom, to find that there were men, more than two millenia ago, who knew the fundamentals of therapy about as well as we do.

To live is far greater than to be in agreement with anyone.—J. Krishnamurti.

### Nuclein for Colds

**M**OST people have permitted themselves to slide into the deplorable habit of saying, or at least acting as if they believed, that a "common cold" is a raw deal from the Almighty and as inescapable and unalterable as the law of gravitation.

Let us not scorn or scold them for that attitude, for we physicians are largely responsible for their condition of pessimism as to relief from these "minor" afflictions, which waste centuries of time and millions of dollars for the American people and send thousands to the hospital or the grave every year, because, "It is just a cold in the head, and the doctor can't help any if I go to him."

How many of us have said, "A cold? Take ten grains of aspirin, a hot toddy and a hot foot bath and go to bed. You'll be all right in the morning"? That isn't practicing medicine and it would be highway robbery to charge a patient a professional fee for advice which the druggist would throw in with the aspirin tablets!

Back East they have been finding out some interesting things about colds, and someday we shall probably have a specific prophylactic (like diphtheria toxoid) and a specific treatment (like quinine, mercury and the arsphenamines), but that day will certainly not be here before two o'clock the month after next.

Meantime, there are several things that the *real physician*, who is not hypnotized or paralyzed by the pessimism of the *hoi polloi*, can do about colds. He can advise his patients about proper hygienic habits, and put enough personality into the advice to

make it take. He can also get them (especially the perennial victims of the snuffles) to taking cod-liver oil every day through the winter, or one of its palatable and even more efficient compounds (like that with malt extract and viosterol) which are now available, and perhaps one of the useful pluri-glandular products like Protonuclein or Hormotone. All this for prophylaxis.

And when his patients are caught by colds (the usual order of stating this process is all wrong!) he can promise them that, if they will come to him within twelve to eighteen hours after the first sneeze or sniffle, he can, in nine cases out of ten, put a prompt stop to what has been considered the inevitable march of the affliction. This treatment includes a purgative, if needed (most of us do!); Calcidin, plenty—five to ten grains every two or three hours for a few doses; sodium bicarbonate in good-sized doses, until the urine is alkaline; but *first and chiefly, intramuscular injections of nuclein solution (sodium nucleinate)*.

Nuclein is a highly complex protein substance, obtained from animal glands and from such vegetable sources as yeast and certain grains, and carrying a large proportion of phosphorus, in the form of nucleinic acid, the sodium salt of which is used, in solution.

We do not know by any means everything that happens when we inject a foreign protein into the tissues; but we do know that it produces a prompt and positive increase in the number of leukocytes in the blood, especially in the polymorphonuclears. And, so far, no one has proved that Metchnikoff was crazy or a liar when he said, "The one constantly demonstrable factor in immunity is phagocytosis." Nuclein solution is one of the safest and most satisfactory leukocyte stimulators we have.

The first dose a patient receives should be small (0.3 to 0.5 cc.), to test his susceptibility. No serious results will appear in any case, as nuclein is non-toxic, and the local, focal and general reactions are gen-

erally much milder than those following the injection of most of the phagocyte stimulators. Subsequent doses (if the patient reacts normally) should be 1.0 cc., or more, up to 2 or 3 cc., repeated every 12 hours until the "cold" or other respiratory infection is over. Often one "shot" does the trick; and once it has been done, that patient will rush to your office screaming for more, whenever he feels the first premonitory tickle in his nose.

Nuclein solution is available in ampules and in rubber-stoppered vials, so that any physician who has a hypodermic syringe and the skill to use it is prepared to go ahead. The best place for intramuscular injections is in the buttocks, but the thigh, calf or deltoid region may be used when more convenient.

Doctors who will carry this remedy in their bags and keep it handy in their offices, these raw days of late winter and early spring, will enhance their professional reputations, make some enthusiastic patients and take a step toward recovery from therapeutic nihilism, if they happen to be afflicted with that clinically-petrifying malady.

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A patient is a unit, not merely a collection of organs, and disease is the reaction of an individual to external and internal causes.—Dr. Walter Freeman.

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#### A MEDICAL MORATORIUM

**I**T IS the consensus of the Executive Council of the American Medical Editors' and Authors' Association, which met in New York City November 24, 1930, that the present unemployment situation is of vital interest to the medical profession.

There are, among our patients, many who, under normal conditions, pay their bills promptly, but who, at this time, because they are out of work, are temporarily unable to do so. Unless we make some special arrangements with these people, one of two things will happen: Either they will deny themselves and their families the benefit of medical services, to their more or less serious and permanent detriment;

or they will go to the free clinics for treatment. In the latter case, many will acquire the "clinic habit" and be permanently lost to us as remunerative patients.

Physicians have always been notable for the extent to which they have given their services, without hope of pay, to needy persons; and certainly none of us will alter our habits in that regard in these trying times.

For the benefit, however, of those honest and self-reliant persons who are now suffering adversity, but who abhor the thought of asking for charity, the council suggests that the medical profession declare a moratorium, applying to *unemployed persons only*, on the following basis:

That definite announcements be made in the various communities to the effect that persons who are ordinarily employed and solvent, but who now, for the time being, are without work will, upon presentation of satisfactory evidence of these facts, be accorded an extension of credit for medical services, until such time as they are once more working, after which the indebtedness shall be liquidated in accordance with such terms as may be agreed upon by the physician and the patient. It is quite possible that local banks, acceptance companies and other financial agencies can assist in this matter, so that this extension of emergency credit may not impose undue hardships upon the physicians who grant it.

Nothing in these suggestions is intended to apply to persons who are in approximately their normal financial status. These should, of course, pay their doctors *even more promptly than usual*.

As to the paupers, who do not pay in any case, arrangements should be made with the commissioners of the poor and the welfare agencies, so that physicians may receive some recompense for the commodity (their services) which they are furnishing, as do the grocers, coal dealers and other persons and firms who are paid for the supplies furnished to the needy. All physicians will, as usual, give many hours

of their time to deserving persons, from whom they expect no financial return whatever.

The Council is eager that this suggestion be given wide publicity and careful consideration by physicians.

You cannot be a good doctor without pity.—Dr. Axel Munthe.

### THE MALE CLIMACTERIC

WHEN one speaks of the climacteric or "change of life," the average hearer, not only lay, but also medical, thinks at once of women—and does not think again on the subject.

As a matter of fact, even a rather cursory study of anatomy and physiology shows one that, from these standpoints, the difference between males and females is relatively slight. One must have a rather good knowledge of osteology to distinguish between the skeletons of the two sexes; and it is doubtful whether there is anyone who, in the presence of an isolated liver, stomach, kidney, thyroid or adrenal gland or any one of scores of other organs and tissues, would have the temerity to guess whether it came from a man or a woman. Even the general conformation and texture of the body as a whole by no means always corresponds to the ideal pattern for the sex of the individual. The basic and vital differences between men and women are psychic, not physical.

The climacteric is a purely physiologic process, which occurs in the genus *homo* in general—Warthin calls it, "The major involution"—resulting, probably, from a gradual cessation of functioning of all the endocrine glands, not merely of the gonads. On this basis it is obvious that men, as well as women, must pass through a "change of life," even though it comes, as a rule, at an age later by from five to fifteen years, than that of the female.

In women, the catamenial flow is such a dramatic feature of the period of nubility that its cessation attracts a degree of atten-

tion which is wholly absent in the man, because he has no such obvious physiologic indicator of the alterations which are taking place in his body. The other changes which accompany senescence, constituting, in their entirety, a more or less definite return to the neutral or sexless physical type which we see in children, are much slower and less striking but, if we watch for them, will be found equally in both sexes.

On the psychic side of the picture, a woman, because her emotional nature is, as a rule, more sensitive and less well balanced than that of a man, will experience profound and sometimes sudden fluctuations, or even aberrations, of her inner life, so marked, at times, as to be readily perceived by her associates.

But women have not, as is generally supposed, a complete monopoly of circulatory disturbances ("hot flashes") and psychic upsets at this time of life. Many men between the ages of fifty-five and sixty-five will, if closely questioned and studied, be found to be experiencing (generally in a minor degree) many or all of the uncomfortable and unpleasant symptoms of which women are wont to complain so bitterly. These points will rarely be brought out except by careful investigation, because not one man in a hundred would think of attributing his annoying physical and psychic sensations to such a cause; while women tend to swing to the other extreme and to feel and say that almost any pain or unusual feeling to which they may be subject during the middle years, is merely "their age working on them."

These biologic observations have decidedly more than an academic interest. The physician who bears them in mind will frequently discover that they will lead him to a diagnosis in the cases of elderly men, whose vague and indefinite symptoms do not fit into any recognized nosologic picture, thus freeing the patient's mind

from the unexpressed fear that he is suffering from some rare and mysterious ailment, about which his medical attendant seems to know little or nothing, and restoring the physician's confidence in his own diagnostic ability, about which, perchance, he was beginning to have grave doubts.

But having made the diagnosis, what is there to do about it? Is there any remedy for the "last disease"—old age?

The fountain of youth has not been discovered, despite the lurid claims of some enthusiasts. The old man and the old woman can not be made young again. They can, however, be conducted down the farther slope, by a wise and sympathetic clinician, in such a way that it will have no terrors and fewer discomforts and annoyances than fall to the lot of most.

In the first place, their minds should be disabused of the idea that the sex life must or should cease with the climacteric. The fires of passion will not, of course, burn so high and bright as they did in the third and fourth decades, but if conjugal relations have been consummated and maintained with love, intelligence and skill, during the earlier years, there is no reason why they should not continue, with a high degree of satisfaction to both participants, until surprisingly advanced ages.

Then, too, recourse may and should be had to well-considered endocrine therapy. Such medication will not, however, transform a jaded Lothario into an Eros, nor enable an octogenarian to play the part of Romeo. In fact, there is some doubt whether glandular products, whether ingested, injected or implanted, do actually exert any marked or even relatively permanent physical influence upon *potentia coeundi*—though there may be a good deal of psychic influence. The retention of sexual ability and pleasure into the late years depends, not upon drugs nor operations, but upon the wise, loving, considerate, skillful—in fine, civilized—exercise of those functions through a lifetime.

On the other hand, there is no doubt that the intelligent use of endocrine products, from the onset of the climacteric onward, in both men and women, will postpone the appearance of the physical and psychic signs of senescence for considerable periods; increase the general bodily and mental vigor and comfort of aging persons; and make the sunset of life (as it should be) more beautiful and fruitful than the sunrise.

If men would give to their married life one-tenth of the trouble and thought they give to their business, the majority of marriages would be happy.—Robert Haas.

#### A BUYERS' MARKET

THE newspapers, the radio, the billboards and other promulgators of propaganda have, for several months, been yammering at the cockeyed world to "BUY! Buy until it hurts!"

There may be some sense in their vociferations, but it looks, to a man up a tree, as if the populace had, for several years, been buying (largely on installments) until it hurt—their bank accounts, their families, their credit and, finally, the whole structure of business—and that a moratorium on spending had become, not merely obligatory (because they were broke), but also highly desirable.

If the pleadings of the promoters of prosperity are acceded to with judgment and discretion, the trick may be turned, for surely the present market is a buyer's, not a seller's, market; but the eagerness to acquire bargains must be seasoned with the Attic salt of foresight, if one is to avoid another attack of economic cholera morbus, with resulting fiduciary marasmus.

In one's buying program, today, there should be included, among the sealskin coats and superheterodynes and lounging pajamas, lingerie, liquor, liverwurst and other luxuries, a safe and sane selection of sound securities; to wit, the justly celebrated stocks and bonds. Not just any stocks and bonds that someone is eager

to sell, but *real* ones—the only kind that ever are truly bargains at any price.

You wouldn't take your balky motor car to an otolaryngologist for a diagnosis, nor your \$7.69 Swiss wrist watch to a blacksmith. Why should you eagerly listen to the advice of the fellow at the filling station or the plausible stranger with an opportunity to become a millionaire next year, on an investment of \$98, when your financial machine develops a knock or needs a new set of tires to keep it going?

In financial matters, go to a financial specialist—your banker or broker or both. Listen to their advice; study the recommendations they make (information on the "past performances" of reliable institutions is not hard to come by); and then use your judgment, not your emotions of cupidity; your backbone, rather than your wishbone, in selecting your bargains. *Buy them outright* (not on margins), lock them in your safe-deposit box and *forget them* for two or three years, by which time the poor, emaciated things should, if their family and personal history was good, have acquired a pleasing degree of plumpness.

Take this gem home and try it on your concert grand cash register.

—————  
Adversity disciplines the spirit and tests the resolve. With the mastery of adversity, courage is born.—MANLY HALL.  
—————

### THE INDEX FOR 1930

**A**MEDICAL journal, if it amounts to anything at all, is quite different from a newspaper or an ordinary lay magazine, which is thrown in the waste-basket as soon as one has read the interesting parts. If an active practicing physician does that with his high-class medical journals, he is chucking good money into the ashcan, because an article which does not especially catch his fancy, today, may be the

very one it is vitally necessary for him to study next month or next year.

A bound file of medical journals, with an adequate index, is a MEDICAL BOOK of unique value; and a library of such books is essential to the man who is seriously pursuing the clinical or research branches of the medical profession. Unbound and without an index, however, these permanently useful publications, for which money has been paid, are nothing but refuse, because a busy man would never find time to paw through the pile in a needle-in-the-haystack hunt for the item he glanced at last year.

With this idea in mind, and as a service to our readers, we spend several hundred dollars each year for the preparation of a *real index*, which is actually a guide to the world's most important medical literature for the past twelve months. But though this index is expensive and valuable, it costs the readers nothing, because it is part of the SERVICE for which they paid when they subscribed to this periodical. A copy will be sent, free, to anyone who writes (a post-card will do) saying, "Send me the 1930 index," and appending his name and address.

For those who have no local bookbinder handy, we will go a step further. They may send us their file of journals for the year (better remove the advertising pages, to save transportation expense), charges prepaid, with a check for \$2.50, and, in due time, we will send back, charges collect, a dignified and durable volume, with the index included—a permanent addition to the medical library. The solid, buckram binding will be black, unless green or red is specified.

Send for the index at once, and it will be forwarded as soon as it comes from the printers.

## LEADING ARTICLES

### Subnormality from Hypothyroidism\*

By E. P. SLOAN, M.D., Bloomington, Ill.

**T**HE problems of the diseases of the thyroid gland have, for several decades, commanded the attention of our entire profession. Indeed, within the last few years, even the laymen have become what we might call "goiter minded." We should be proud that our profession deserves the credit for the great saving of lives and the prevention of disease. But in hypothyroidism there is a greater problem—one that affects a much larger number of individuals. In fact, by its relation to subnormality from retarded differential development, it directly or indirectly affects every citizen.

We have been concerned with the preservation of health, the prevention of pain and death and the quantitative addition of years to the span of life. But we, as a profession, have given scant consideration to the problems affecting the quality of individual or community life. We have seemingly forgotten that medical science may influence the forces within the man himself that make up his personality and control his destiny. We have been content to leave the problem of subnormality to welfare workers, educators, psychologists, behaviorists, criminologists and the churches. Is it possible that, in the prevention of hypothyroidism, we hold the key to normal differential development? If so, the medical attendant has, in many cases, the opportunity of making either the greatest romance or the greatest tragedy out of the growth and development of a human being.

#### DIFFERENTIAL DEVELOPMENT

The greatest romance that any doctor can observe is contained in that interest-

ing miracle in life, the evolution, by differential development, of a tiny bit of protoplasm into a mature human being, a masterpiece of physique and instinct, perfected to the minutest detail for his place in life. Gross development, meaning merely an increase in size, is not so marvelous to the human mind. But differential development, by which a small cluster of cells becomes an infant with hair, skin, eyes, teeth, blood vessels, muscles, skeleton, special organs and, above all, the instincts, intellectual faculties, emotions and every qualification that enables him to react favorably and adequately to his environment, is indeed so marvelous as to be almost beyond the conception of the human mind.

But the miracle has not ceased when the baby is born. Differential development continues after birth. The infant walks, talks, the teeth appear, he laughs, cries, remembers and thinks. Later on, in girls, menstruation and the change in figure occurs; in boys the voice changes and the beard appears. After the individual reaches the age of sixteen or seventeen, the final stage of differential development begins and character qualities, such as industriousness, truthfulness, honesty, justice, kindness, courage and loyalty develop and become a part of himself. At about the age of 28, maturity has been reached and the greatest miracle known is complete.

But this normal development is sometimes stopped and sometimes retarded along the way and a subnormal individual is the result. The utter idiot, the imbecile or the moron, especially when he is near or dear to one of us, constitutes a real

\*An address delivered before the Medical Round Table of Chicago, May 13, 1930.

tragedy. But a greater tragedy is presented by the high-grade subnormal individual, perhaps intellectually brilliant but lacking in those character qualities, usually included in the general term "good sense," that are essential for independent existence. Outnumbering the idiots and morons many times over, is the increasingly large army of these subnormals whose mentality varies from an almost imperceptible defect to complete irresponsibility.

The individuals who show slight deviation from the expected standard—who are slow in learning and find themselves invariably at the foot of the class; that are given to truancy, unseemly conduct in the school room and on the play ground and are frequently a bane of the teacher's and parents' lives; that seem normal but are not; that promise but do not perform; that try but do not succeed; that seem shiftless, without ambition and do not hold their jobs; that are a burden and source of anxiety to their parents; that frequently become criminals—these poor, subnormal individuals, baffled by the world in which they find themselves, constitute the greatest tragedy in human experience.

#### THE PROBLEM OF THE SUBNORMALS

It is in the ranks of these high-grade subnormals, who seem to be increasing in number every day, that we find our greatest problem. A few years ago, when life was simple and unexacting, these subnormals—who are generally peaceful, law-abiding, readily satisfied with conditions as they exist, although perhaps prone to idleness and easily led into mischief—were protected by their environment and managed to follow their shiftless way through life. But in this super-world in which we are living, with the steam engine, the automobile, the aeroplane, the radio, scientific and educational achievements and tremendous business organization, there is no place for the weakling. A super-man or a race of perfect men is required to run it, and the subnormal individual is helpless in his environment and, try though he will, he cannot adjust himself. In his desperation and helplessness there are potentialities for great harm to himself and to the community.

As a rule it is in the higher ranks of the subnormals—the "psychopathic personalities"—those morally, rather than intellectually inferior, that criminality is found. It is impossible to estimate the number of

subnormals in this country. It is even impossible to estimate the prevalence of definite cretinism. Many cretins are in insane asylums, homes for the feeble-minded, county poor farms and criminals' institutions, and no efforts are being made to recognize or classify them as such. To be convinced that there are many more than anyone would expect, it is only necessary to visit the state institutions and the schools for retarded children, and to make a survey of the retarded, subnormal children in one's own neighborhood. It has been stated that of the eleven million recruits examined in the late War, over ten percent had a mentality of not much over twelve years.

There is little to be found in the literature in regard to the etiology. Inanition, hemie dyscrasia, auditory defects, vagotonic irritability, syphilis, ocular defects, epilepsy, infectious disease in the mother, infectious disease and physical defects in the child, environment, epidemic encephalitis, thymic disorder, vitamin deficiency, status hypoplasticus, heredity, and hypopituitarism have each been mentioned as a frequent factor in the production of these defects, but little has appeared in the literature in regard to defects obviously due to retarded differential development.

There is much evidence to show that thyroid function is necessary for differential development to occur. The cretin or the individual totally deprived of his thyroid gland is an idiot and a dwarf. He will never, no matter how long he lives, measure more than three feet in height and will, throughout the course of his existence, remain an infant in mentality. Individuals with defects ranging from this obvious extreme condition up to conditions slightly below normal are seen by every general practitioner. The proof that, in the great majority of these cases, the retarded differential development is due to a deficiency in thyroid function, lies in the common observation that some improvement always follows thyroid medication.

There is also much evidence to show that the deaf-mutism seen among cretins is due to lack of differential development of the internal ear and mastoid cells in fetal life and that it may be prevented by thyroid medication. There is considerable evidence to support the theory that

hypopituitarism is, in many cases, due to lack of development of the thyroid gland.

Many incidents have been observed that lead me to think that enteroptosis may sometimes be due to retarded development in the early stages of fetal life. It is quite evident that the incidence of this condition is greater among hypothyroids than among those with normal thyroid development. Several observations have been made similar to the following:

A mother of two subnormal, enteroptotic children came in during her second month of pregnancy with a large goiter and definite hypothyroidism. Administration of thyroid corrected her hypothyroidism during her pregnancy and a non-enteroptotic child was born, normal in every way. After this child was born her goiter was removed, she thought she was well and neglected to take thyroid during her next pregnancy. An extremely enteroptotic, cretinoid child was the result. By the assistance of thyroid medication two normal children, neither of which is enteroptotic, have been born to her since that time. Thus, the two older children, who are now in institutions for the feeble-minded, might have been normal had the mother received thyroid during her pregnancy. The fourth child improved so much under early thyroid medication that it is reasonable to assume that, if the mother had received thyroid medication during her pregnancy, this child, who is now eight years old and, after seven years of slow improvement, has an intelligence quotient less than that of four years, might have been normal in every respect. I am sure that almost every physician has observed some cases of retarded development that have made gratifying progress under thyroid medication.

#### ORDERLY EVOLUTION

When one studies the phenomena of the development of a human embryo to maturity, one is impressed by the *orderly, consecutive manner* in which it occurs. If before birth any phase of the differential development occurs out of turn or fails to occur, a monstrosity is the result. Every specialization or stage of development, not only has its proper sequence, but must occur in due time. If the teeth do not erupt at the proper age they are never quite perfect. If the sex phenomena do not appear at the proper time in life they will never be normal. The infantile uterus,

the development of which could have been speeded up at eight or ten years of age, at twenty years of age cannot be forced to develop and will be an infantile uterus at forty or fifty years of age. If the development of an ear or an eye or a foot or a hand does not occur before birth, it will not occur afterward.

The same is true of the differential development of the mental and character faculties. While it is a continuous process, yet its changes occur consecutively and in orderly rotation. The affection impulses, the imitative faculties, the special senses—feeling, seeing, hearing, taste and smell—develop rather early in infancy. Visual memory is developed early; memory of things heard a little later; and later still, memory of things read. Imagination develops early. At about one year of age and before the development of reason, it is untrammeled and soars to strange heights. Control or harnessing of the imagination comes later, as reason and judgment act as a bridle on the imaginative faculties. The development of the reasoning faculties comes previous to the development of the faculty of judgment. A distinction should be made between the ability to reason and the ability to form an abstract judgment. The child or adolescent youth has but a vague conception of the *abstract* virtues or faculties that constitute the character qualities and motivating life influences of a well-balanced, dependable, stable, mature personality.

Normal development in the early stages is a requisite for normal development in the later stages. The ability to reason in the abstract cannot be developed until the individual can reason from the concrete. In general we may say that the imitative emotional and affection faculties develop early; the intellectual faculties in youth; and, between eighteen to twenty-eight years, character qualities become a part of the individual himself and he is dependable—what we call “settled.” Thus, if differential development is retarded, it is the later moral qualities that do not appear and *moral defectiveness* or *moral imbecility* results.

#### DIFFERENTIAL DEVELOPMENT IN PLANTS AND ANIMALS

For some time farmers have realized the importance of differential development in plant life. Instead of corn plants fifteen feet high, with enormous gross develop-

ment of foliage, but no differential development of the ear of corn, the farmer, by supplying the necessary minerals to the soil, grows smaller plants but larger ears and harvests four times as much corn. The horticulturist has learned that, if the proper minerals are not available in the soil, differential development will be retarded and the tree will not produce superior fruit.

Many years ago veterinarians discovered that defective development in animals could often be prevented by correcting the mineral deficiencies in the nutritional supply, thereby enabling the thyroid gland to function adequately; yet almost all of the attention that the subject of differential development in human beings has received, has come about indirectly, through the study of goiter. It was early recognized that there was a connection between colloid goiter and cretinism. It was discovered that cretinism rarely occurs without a history of four to five generations of goiter in the ancestry and that, in the fifth generation of goitrous individuals, the incidence of cretinism and deaf-mutism is about fifty percent. So goiter was thought to be the cause of cretinism and the statement by Fodere, "Goiter is the first degree of a degenerative process, the last stage of which is cretinism," was generally accepted. Even to this day it is not generally recognized that colloid goiter, cretinism, deaf-mutism and retarded differential development are obvious defects from thyroid deficiency.

In searching for the cause of simple colloid goiter, especially of the endemic variety, experiments upon the tadpole and frog have perhaps thrown more light upon the subject than has been obtained in all other ways. The life cycle of the frog is from egg to tadpole, to pollywog, to frog. In the egg, the tadpole and pollywog stages, the animal lives in water. When it becomes a frog it lives on land and breathes air.

If a group of tadpoles is divided, and if half of them are placed in water containing small amounts of mineral salts and thyroid gland, these tadpoles, under the influence of the salts and thyroid extract, will become frogs in fifteen to seventeen days, instead of the normal sixty-four days. If the remaining tadpoles are placed in water free of mineral salts and thyroid, gross development will continue for a period of six months or even longer; the

pollywogs will attain an enormous size, if, even at this late date, mineral salts and thyroid are supplied, the pollywogs will, within a few hours, undergo differential development and become frogs.

If these two groups of frogs—one group having reached maturity in fifteen to seventeen days; the other group after a period of six months or longer, are placed together in the same pond, it will be found that their size will be so nearly equal that, by casual observation, they cannot be told apart. The frogs, however, that matured early, under the influence of thyroid hormone, are much more active, display more intelligence and can take care of themselves under adverse circumstances that would kill the others. For example, if all the frogs are placed in a large tank and half enough food for the entire group is supplied, the early-maturing or active frogs will get all the food and the others (those which remained for a long period in the pollywog stage) will finally perish.

#### TADPOLES AND FROGS

When I was a boy on a farm in southwestern Missouri, we seined tadpoles out of the little pools, confined them in a water tank and watched them as they developed into pollywogs; the pollywogs as they developed into frogs; and the frogs until they skipped off and left us. The exodus of the frogs, however, was not complete. The mineral salts in the water were soon used up, their thyroids could not function and some remained after their brothers had gone; and these remaining few, although having had their hind legs for some time, would often remain pollywogs for many days and even months. The gross development would continue; the pollywog would become very large—sometimes two or three inches in length. Due, however, to lack of differential development, transformation or metamorphosis would not occur.

These recalcitrant pollywogs were a source of great concern to us. We had their interest at heart; we wanted to see them develop fully; to see their "hands" peep out; to see them hop, skip and finally jump over the edge of the water tank and take off towards their natural habitat of swamp and stream. We watched and waited; when the normal processes balked, the recalcitrant pollywogs became a matter of irritation. We found that if we took a dilatory pollywog out of our old

water tank and put him in a pool of running water (where he could get mineral salts) that, within four or five hours, differential development would occur and he would become a frog. We were told that if he would jump like a frog he would become a frog and we were sure that he could if he would and would not believe that he would if he could. Ignorance of certain scientific facts, well known today, produced our irritation with the subnormal frogs and drove us on to a cruelty toward innocent offenders.

So, *in his own interest and for his own good*, we tried to make him jump. We lifted him up on a paddle and pushed him back suddenly into the water—no results; we applied a hot wire or lighted match to his tail in an effort to make him jump—again no results. We had noticed that the other pollywogs, as their little arms were released, pushed the skin off in a very energetic manner with their legs. We felt that our dilatory pollywog was not trying to push his arms out and thought we would give him a start. We took him out of the water and tried to split the skin over the arms to make it easy for him. Again no results; Mr. Pollywog stubbornly refused to jump like a frog; indeed, as a result of the operation just cited, he usually died. This was cruelty, the worst form of cruelty—a cruelty based on ignorance and having for its objective "the interest and welfare of the victim".

Is it not the same kind of cruelty when we fail to understand, and call one of the baffled, trying, desperate subnormals bad; say that he could learn if he wanted to, that he could behave himself if he tried, that he could tell the truth if he wished; and then, *for his own good*, strive by intimidation, scorn and the "corrective influence of ridicule" to make the pollywog youth jump like the normal one?

#### MORAL RETARDATION

It is frequently in adolescence or in the early years of maturity that certain abnormalities, resultant from uneven differential development, first make their appearance. It may be that the slightly abnormal adolescent individual has passed through school or high school and college with credit, or even with apparent brilliancy. The brilliancy, however, is entirely intellectual, the result of normal development of the intellectual faculties.

The moral faculties have not developed in proportion or with symmetry. The abstract character qualities of integrity, judgment, justice and truthfulness are warped or aborted. The development is lop-sided. The hind legs have appeared; the forelegs or arms, which convert the pollywog into the frog, are still undeveloped.

Our newspapers regale us daily with examples of such unbalanced character evolution. We read of Loeb and Leopold, of Hickman, of Croarkin, of Fitzgerald and many others whose lack of judgment and balance led to the commission of atrocious and repulsive crimes. We do not read of the thousands of others in the same class who navigate their way through life, without a compass, without a rudder or balance-wheel, and who owe their freedom from the menace of prison and the electric chair rather to chance than to any qualities in themselves. I do not wish to imply that all morons are criminals or that all criminals are morons.

Jesse James was, perhaps, a normally developed individual. He was reared in an atmosphere of passionate hates, resentments and suspicions. As a boy he was surrounded by the bush-whacking desperados of both the northern and southern armies. This youth saw his loved ones and friends persecuted and pillaged without redress. In that wild and lawless time many sympathized with him and felt that he was justified, in part, in becoming the most heartless and cruel desperado of his age. His entire career was colored with the spirit of retaliation bred by the times. Jesse James perhaps reacted normally to the cruel, vicious, madly lawless environment of his boyhood.

The Loeb-Leopold case, however, presents another angle. Environment alone cannot explain their criminal characters. They had reached an intellectual development far beyond the average. One of the boys showed signs of a genius for research. But their moral development was greatly retarded. They are obviously moral imbeciles. Differential development had not progressed with symmetry. Is it possible that proper correction of glandular deficiencies in the mothers of these boys, and in the boys when infants, would have speeded differential development and have changed their entire life cycle?

In Hickman, however, we have an example of the consistent subnormal. Ob-

servers have estimated his I. Q. or intelligence quotient, variously at from that of an eleven to a thirteen year old boy. He was egotistical, restless, swaggering, a "show off," yet, withal baffled by a world in which he is a misfit.

John Wilkes Booth, who shot Lincoln, was a "psychopathic personality." Davy Herold, the half-wit who was with him when captured, was a moron, dominated by Booth.

#### THE SUBNORMAL CHILD

As a rule we do not recognize the retarded child in time to prevent painful complications. We call him bad. We feel that he has inherent possibilities which he does not use; that his misbehavior is entirely optional on his part. We strive by various means to make him act in an acceptable manner. We strive by cajolery, punishment, teaching, preaching, intimidation—by every means known to us—to make the child conform to a normal standard. The teacher places him at the bottom of the class, puts the dunce-cap on his head, exposes him to what she thinks is the corrective influence of the sharp lash of ridicule. Perhaps she canes him or sends a request to the parents that he be caned. If he is a truant, the truant officer is after him; he is led to expect punishment in the schoolroom, on the street and in the home.

We are trying to make that child do something which he cannot do, which is inherently impossible, which is as much beyond his power as taking a flight to Mars. Like the Missouri farm boys, we are trying, with the same ignorance and intentness, with the same cruel obstinacy, with the same interest in the pollywog's welfare, to make the subnormal child jump like the normal one. We have forgotten that we never once made the pollywog jump in the old days; that the lighted match, the hot wire, the skinning alive were not only ineffective, but often fatal. We have not brought ourselves to realize that both the pollywog in his little water tank and the retarded child, suffering from thyroid deficiency, have limitations as fixed as fate itself.

No child with abnormal thyroid function can make normal progress along the lines of differential development. The other ductless glands, as well as the thyroid,

are influential in promoting normal development. The thyroid gland, however, is the pace-maker, the regulator of physical and mental differential development, the leader of the endocrine or ductless glands.

#### DIAGNOSIS

*During Pregnancy:*—In the diagnosis of thyroid insufficiency in an expectant mother, the basal metabolic rate and the pulse rate are of little assistance. No standard has been formulated for the normal increase in the metabolic rate during pregnancy. In fact, the metabolic rate varies during pregnancy to such a degree that perhaps no standard can be formulated. Perhaps, in the majority of cases, the normal rise in the basal rate, by the third month, is about twenty percent; by the sixth month it is perhaps about thirty percent; at times it may be temporarily increased to forty percent.

*The pregnant woman who shows a normal reading on her basal metabolism test is probably subnormal.* Dependence must be placed upon physical examination, personal and family history, and clinical judgment. A history of subnormality, deaf-mutism, simple colloid goiter, late menstruation, infantile uterus or late teething, in the mother or her relatives, should suggest thyroid deficiency.

*In the Infant:*—Overweight, inactivity, mental dullness, late teething or walking is suggestive of hypothyroidism. Checking up of the development of the long bones by roentgenography should not be neglected. In childhood, the diagnosis is frequently made by x-ray studies of the long bones. Practically all cases may be recognized before the age of two years. After the child has reached the age of six years, the outlook, as regards satisfactory improvement, is not promising.

#### TREATMENT

The treatment is so simple that it requires no discussion. The correction of mineral deficiencies in the nutritional supply is sometimes all that is required.

The dosage of thyroid, when indicated, is so small that it can hardly do any harm. The results are so promptly manifest that the therapeutic test is, after all, our most reliable means of diagnosis.

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# The Mouth and Its Relation to Disease

By WILLIAM A. LURIE, M.D., New Orleans, La.

SINCE the beginning of Medicine as an art, and up to the present, when it has become a profession, man has been looked upon as a complex, though complete, organism. His general disarticulation has been left to the dissecting room, not the operating room. But times are changing and the art of Medicine is becoming more diverse and intricate, in keeping with the changes in our social and business life. These bring to the body newer tasks and problems, calling for changes in living environments, with a multiplicity of extraneous stimuli and irritants, to all of which the organism which seeks to survive must adapt itself.

Medical science is indebted to laymen and non-medical scientists for many of the advances in one direction or another. Always, however, has there been an absorbing of such discoveries, by the medical profession, with the assimilation of the newer art as part of Medicine. Those practicing subsequently, without sufficient medical knowledge or training, have either forsaken the medical application of their art, or have continued in it in a mechanical or technical way.

In the early days of the itinerant doctor, the barber was the surgeon, because he knew better how to keep his knives and cutting instruments in good condition than did the doctor, who dealt more in herbs and concoctions. Today we have better cutting instruments and the barber has become a tradesman; while, on the other hand, we have better and more refined herbs and concoctions, so that medicine-making and dispensing has resolved itself into pharmaceutical manufacturing and become the work of the pharmacist or druggist.

These branches of medicine have been brought into the circle of learning necessary for the physician, only to become specialties. That part of either which seemed to fall short of professional dignity was cast aside, to take its place as a highly specialized trade, allied and related to the profession as a whole, yet remaining under medical supervision. We have witnessed many such absorptions and the later de-

velopment of a metamorphosed profession or calling.

## STATUS OF THE DENTIST

In the last thirty years we have been witnessing a most remarkable dismembering of the body of Medicine, because of a lack of cordial relationship and recognition of the status of the organs of mastication, as parts of the whole. Dentistry has not undergone the assimilation by Medicine that it ultimately must, and it has not divided itself, as it ultimately will and should, into its professional or medical and surgical side, and its operative or mechanical side. There is only one profession of Medicine, and that includes the entire art of treating diseases of the entire organism, without restriction. Truly, there are those of us who are more adept in one or the other of the branches of the healing art. Dentistry, in its origin, was only a local application of surgery to the dental organs. The major surgery of the jaws was attended to by the general surgeons; rarely by the dentist. The dentist came into being because of his special instruments.

The World War brought a change in the status of the care of the mouth and its importance to the human organism. More attention than ever before was focused upon the mouth and teeth, and consequently a greater number of people than ever before became mouth and tooth conscious. In civil life, as well as in the Army, demand arose for a better understanding and better care of the organs of mastication. This demand was more insistent and came about more suddenly than any following the early discoveries of the relation of the teeth to general systemic diseases, by Hunter, or the later announcement of the part the teeth played in focal infection, as described by Billings and Rosenow. During the War, and even yet in military circles, the Dental Corps is part of the Medical Department, and no operation, of major character or involving more than repair of the dental organs, is done without the knowledge and consent of the medical officer. Treatments by physical means are given under medical supervision, not dental.

Dentistry, through the War, won a well-deserved prominent place in the work of medical character but, like the barber of old, it fell to the lot of dentistry to do the work because of the knowledge of the use of the highly specialized instruments. But, as the sharp razors and good knives of the barber did not always prove him a good surgeon, dental instruments do not proclaim the dentist an oral surgeon nor an oral doctor or stomatologist.

Recently, in dental education, more attention is being paid to the relation of the mouth to the health of the patient, and less care is given to the time-honored and erstwhile fundamental axiom of the dental profession: "Save the tooth." While there is no remission in the efforts of the dentist to provide a proper masticatory apparatus, he has learned to do so without jeopardizing the remaining teeth or making them a possible future source of toxicosis. Some of the restorations are real works of art, and require the highest type of special training of a mechanical nature. Winternitz states that a medical oral specialist could have under him many dentists trained in the mechanical portion of the art, and practice the speciality of diseases of the organs of mastication without doing dentistry, leaving the restoration work to those who had no medical or surgical knowledge, but a mechanical training in the special requirements of the dental organs.

We now come to an analysis of the present and a review of how this dual-profession system works out. A complete analysis of the situation would here be impossible but, in abridged form and by illustration of a case history which is one of many, some of the important and common features of the present-day situation are pointed out.

The daily publicity of the importance of oral health is being urged upon the public by the manufacturers of dental preparations and sanctioned by the dental profession, because of the slogan, "See your dentist at least twice a year." This has made such a forceful impression upon every one, that the layman has come to feel that the physician has no right to look at a mouth, much less advise about it, for it is the sole province of the dentist to do so. This feeling has, to a great extent, permeated the medical profession, so that, when the possibility of an oral focus of infection or a possible toxic oral condition is suspected, the patient is referred to his

dentist for an examination and report which is beyond his scope of learning.

A large proportion of the dentists of the older generations have had no medical training and have no medical degree. Their experience has proven that rarely does a patient die from having a tooth filled, but they have died from having them extracted. It is, therefore, more proper to save the tooth, for there are more people with filled teeth and root canals living, than have been cured by the removal of the teeth, and the commentary is that a tooth in the head is better than any denture. They do not subscribe to the teaching of focal infection. Dentistry lauds these men, and many of them have done much for dental mechanics, but not for health.

Of the younger generation, there are several who bear both a medical and a dental degree, but who hold their dental practice paramount to that of medicine, or even a desire to associate the ideas of general medicine with dental or oral medicine. What, then, is accomplished, in the greater number of instances where the physician refers his patient to the dentist for an examination of his mouth?

#### PHYSICIAN, DENTIST AND PATIENT

The vast majority of people have their own dentists in whom they have confidence and who have seen them rather recently and done some reparation, so to him they will go. The situation is a rather embarrassing one. The physician suspects an oral focus as the cause of the patient's condition. The patient places equal confidence in the physician's judgment as to the cause of his disease, and in his dentist, to keep the mouth in a healthy condition. Can you imagine the dentist condemning any of his own recent work? In the majority of instances, the physician receives a report that some teeth have been devitalized and, in the opinion of the dentist, are in good dental condition. If roentgenograms are made, they are seldom taken of the entire set of teeth, unless the physician should insist upon it. From a medical standpoint, such a partial report is comparable to one that would be made by a laboratory reporting on the blood picture, by the statement that there is nothing abnormal, because the color index is normal; or that, because the urine was of normal specific gravity, its content is normal. The dentist who does a patient's reparative work, usually does it without regard for the patient's general



Fig. 1.—Note the mass of bismuth paste in the roof of the mouth, and a rather well-defined area of bone destruction surrounding the mass and extending forward, roughly funnel-shaped, to the lateral incisor. This area forward to the bismuth paste shadow is that described in the text as having been frequently incised.

health and without the knowledge of what effect some local condition might have upon health. How, then, could he be expected to condemn, for the physician, any of his own work?

Should the dentist make a complete survey of the mouth and, on finding some abnormalities, make a clean breast of it to the patient, there is then another aspect to the situation. Who is to evaluate the seriousness of the conditions discovered? The physician, in his eagerness to rid his patient of all foci, is liable to be too radical; while the dentist, to minimize his oversight of the past, may easily be too conservative.

It has been my privilege to note many instances illustrative of this very situation, not only in this city, but in many others, so that it may be considered as being almost universal in this country. I shall, therefore, recite but one case, and illustrate how an incomplete oral history and examination failed to indicate the connection of the mouth with a condition from which the patient suffered and nearly lost his life. That the oral condition was responsible for the symptoms, should be considered as proved, for the patient has been well these past five years, having made a rapid recovery after an oral operation, performed in the midst of a most convincing examination, showing that a duodenal ulcer was present.

#### CASE REPORT

H. J. B., male, age 33, was referred to me for an x-ray examination of one tooth, to determine the condition of the periapical alveolar tissue. This indicated a mass above the tooth area, of greater density than alveolar bone, so further picturing and the examination of the

whole mouth was suggested and consented to. The appearance of the mass indicated is illustrated in the accompanying roentgenograms. The further history of the mouth was as follows: Twelve years previous, the patient had some fillings put in the upper left bicuspid teeth. For a time these teeth were sensitive and then became quite painful and a "gum boil" developed about them. The fillings were removed, the "nerve" taken out and the teeth re-filled. There was a continuous discharge through the opened boil, so bismuth paste was injected into the sinus, after which it healed and was forgotten.

Three years later, a swelling appeared in the roof of the patient's mouth, which was acutely painful and was incised. A straw-colored, thick fluid was evacuated and the sinus healed for a time, but had to be reopened on several occasions. As this was directly over the left lateral incisor, it was finally decided that the process arose from this tooth, so it was devitalized. Singularly enough there was no further trouble from this swelling.

About three years later this patient began to suffer with stomach and intestinal upsets and,



Figs. 2 and 3 outline the lower margin of the bismuth paste mass and indicate the extent of bone destruction about the two bicuspid teeth.

later, vomiting. These symptoms continued and became more severe until about fifteen months previous to his being referred to me. From that time on, the patient underwent every character of examination to determine the cause of the trouble. Gastrointestinal x-ray pictures indicated the suspicion of an ulcer of the duodenum, and the classical rest and rectal feeding treatment was undertaken. At one time, when the symptoms were extremely aggravated and the abdomen became tense, a diagnosis of the perforation of an ulcer was made and a laparotomy performed. The diagnosis was found to be incorrect. An elongated appendix was removed. On the fifth day the patient developed ileus, during which his life was despaired of, but he finally recovered. Previous to his entering the hospital for the classical treatment of rest and rectal feeding, his mouth had been examined and put in good condition at the request of his physician.

At the time of the discovery of the oral lesions, this patient was having another series of gastrointestinal pictures made, and the attending physician and the radiologist were convinced that an ulcer of the intestinal tract existed which should receive continued treatment. It was considered that the oral condition was but an incidental finding, and the request was made not to disturb the patient in the course of the examination.

However, as soon as the examination was over, the patient submitted to the removal of

all of his non-vital teeth and the sac containing the bismuth paste which had been injected twelve years previously. The operation was performed under a local anesthetic, using Butyn and, after dissecting out the two upper left bicuspids, a palatine flap was laid back and the sac containing the bismuth paste was shelled out from its bony wall. Much of the bone on the palatine side was destroyed. The wound was packed and the flap edges approximated with silk sutures. There was no other than the usual after-treatment. The wound, granulating from the deepest portion, was healed in six weeks, at which time a removable denture, to supply teeth in the places of those missing, was made.

**Results:** It is five years since the performance of this operation, and this patient has never suffered once with any gastric or intestinal upset. From having been on a most careful and rigid diet, the patient had at once gone to a regular and full soft diet, and subsequently to a normal mixed diet. The mouth area healed and has never been the source of one moment's trouble. He has regained his normal weight.

**Commentary:** This patient is but one of the vast number of cases of illness, in which the medical practitioners are seeking the source of the trouble, which often is located in the patient's mouth and which, because of a lack of the proper medical evaluation of oral conditions, escapes detection.

To conclude, I might add that, in my opinion, the publicity given to the importance of the mouth as a cause of illness has created a demand on the dental profession which it is not prepared to meet, from the medical aspect. The medical profession has lost sight of the mouth as a factor in disease from all other than that of dental origin, and physicians neglect to exercise their own knowledge of the medical aspect of oral conditions, relying on the trained dentist, who often does not understand medicine and the association of oral conditions, dental or otherwise, with physical diseases.

Dentistry, *per se*, is a mechanical art, and it should follow the course of all previous arts related to the medical profession and become assimilated by it. Out of such assimilation should come the oral medical and surgical specialist or stomatologist, and the mechanical reparative dentist; the former a trained specialist, the latter a highly trained mechanical artist, working under the medically trained specialist or stomatologist.

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## Economic and Sociologic Problems

By G. M. RUSSELL, M.D., Billings, Mont.

THE two principal causes of lay dissatisfaction with the present method of practice of medicine are the lack of sufficient qualified men in small communities, and the high costs of medical care.

The matter of State Medicine is constantly being agitated. This of course would mean the transformation of the independently practicing physician into a wage earner, subject to the often arrogant directions of mentally inferior, or, at best, medically ignorant lay persons.

In my estimation, the man who will go through the gruelling intensive preparation that a medical man undertakes, for the purpose of entering the employ of a lay organization or of subjecting himself to the orders of a politically appointed layman, is a fit subject for the insane asylum. If all physicians would absolutely refuse to be employed by any

agency outside of those of their own origination, any form of State Medicine would fail; but of course, in the present chaotic, loosely-associated condition of medical practice, this would be as improbable to realize as the suggestion that all physicians of a community become one clinic.

The fact remains that, under State control, a decreasing number of men would be willing to go through from six to eight years of medical training, for the purpose of accepting employment at \$200 or \$300 a month under lay direction, when the opportunities of earning such an income are frequent without such a preparation, and under less humiliating circumstances. The State would be confronted with the problem of providing enough medical men. The lowering of the physician's possibilities and hedging him in by over-lording is going to lessen the supply very

materially and increase the difficulties of State Medicine. It is a question whether government powers could extend to the compelling of a certain number of young men to take up medicine each year, in order to overcome this shortage, although the proposed scheme of paternalism might endeavor to extend that far.

#### THE COST OF HOSPITALIZATION

Much ado is being made over the high costs of medical service, but the physician is receiving, proportionately, no more for his services today than he did thirty years ago. Where, then, is the increased cost? It is in the hospitals and in our craze to hospitalize every case that comes to us. Why should we, as physicians, be held directly accountable for the mounting expense, and why should we be made to suffer for it? I can remember the time when one could buy a hospital ticket for \$12, good for one year, that would give one care in a hospital for any length of time, in an acute illness or an injury.

The American College of Surgeons has accomplished enormous improvements in the construction and management of hospitals, by rigid requirements, to the distinct advantage of patients, but these features have acted as a boomerang in necessitating prodigiously increased income to maintain them, permitting the unjust incrimination of the entire medical profession as being the cause.

Hospitals, today, are palaces, compared with the home of the average patient. Because of the changes brought about by hospital betterments, people now demand the surroundings of a millionaire when they are sick, and then complain because they have to pay the price. They could be as efficiently and safely taken care of in far more humble surroundings, with correspondingly less expense.

#### STATE MEDICINE

The panel system of England presents its abuses. There is, under this system, a good deal of graft, members requiring physicians to certify to spurious illnesses and to the prolongation of minor ailments. Furthermore, it is a fact that the physician treating a large number of patients for a nominal fee per year cannot possibly give each patient the kind of an examination he should have; his work tends to be superficially mechanical, and he may even-

tually become nothing but a "counter prescriber" and deteriorate into careless, slovenly methods in the handling of his own private patients.

Such a system is responsible for lack of progress. It means retrogression and decadence in the average man who undertakes it and, as a consequence, the patient who goes to him, either as a panel member or as a private patient, is not likely to receive the ideal medical service he is looking for.

It has been suggested that general health insurance be provided. One of the largest insurance companies in the country offers health and accident insurance at figures between \$100 and \$200 per year for each individual, and is not at all eager for the business, so far as health insurance is concerned, because the average person carrying health insurance, in making claim for indemnity, enlarges upon his disability to the greatest extent. This type of insurance is extremely susceptible to fraud; malingerer is encouraged and minor ills are magnified, for the purpose of getting as much out of the insurance company as possible. These tendencies on the part of policy holders naturally increase the cost of carrying such policies. It is conceivable that government-controlled health insurance would have many difficulties along that line. If the insurance included hospital expense, as well as the physician's fees, the premium on such insurance would be almost prohibitive.

While so much agitation is being made for the formation of clinics or guilds among physicians, not a word is being said in regard to some manner of reducing the cost of hospital care, which constitutes a huge percentage of the expense of a severe illness or injury. Every argument for reduction of costs is being aimed against the physician.

#### INERTIA OF PHYSICIANS

The one great criticism we can make of ourselves and our associations is the adherence to the many-century-old idea that we should never do anything in our own defense, aside from urging or remonstrating against certain legislation. We hedge ourselves in from the outside world with the evident fear that we should become contaminated or disgraced by openly rebelling, and we permit any kind of ob-

struction, antagonism or quack competition to operate, without any active individual or associated contravention, except those impotent objections or discussions that are mouthed and chattered over within our own bodies, behind closed doors, resulting in nothing but spume that promptly disintegrates. Whenever any suggestion is made of active rebellion against matters antagonistic to our interests, some member arises and admonishes religious adherence to the ancient, moldy, decrepit rule of inhibition. This folklore heirloom has been a fetish long enough. It is equivalent to the old and peurile Chinese method of opposing an armed force—grotesque caricatures and antics in the effort to repulse modern armament.

There seems to be no reasonable excuse for not changing in these respects, in conformity with modern methods in other walks of life. We are out of date and obsolete in our economic relations with the world and our reactions to the problems that confront us; bound and gagged by ethics that have outlived their usefulness and which are operating toward assisting the opposing forces in effecting the destruction of our independent actions.

If the medical profession, individually and through its associations, would adopt an aggressive, militant course—come out into the open and fight for its rights—the various organizations and factors that are menacing us, encroaching upon and limiting our field of endeavor, would at least meet with some effective opposition, and perhaps be prevented from overriding us. Why this should not be done, instead of supinely submitting to any and every assault upon us, has never been explained to me, and the only reason I can surmise is that medical men as a class are either afraid to meet the issues heroically or are determined, in a martyr-like manner, to manifest a pachydermic dignity and independence, influenced by the conviction that it is a crime to emerge from the cavern of outdated decree.

It may be that when the time comes that every medical man is on a pay roll, a wage earner, he may be forced to emulate the drastic methods of the labor unions. While that may be quite beneficial at that time, it will be too late to retrieve our present situation. Also it may occur that the impenetrable en-

casement of professional reserve and restraint has, by that time, totally smothered and demolished any spark of self-defense that may have existed, leaving in its place nothing but increased lethargy.

Expressions evidencing fear of ridicule, of lowering of dignity, of showing that opposition is being felt, and many other similar excuses for not using strong-arm activity, merely manifest a cowardly, cringing frame of mind.

#### A MEDICAL UNION

We might form an organization (The American Medical Union, or whatever one wishes to call it), which would penalize any physician or surgeon for underbidding another for work; for accepting lower fees than those established; for accepting permanent employment in any lay organization or with a lay person; for taking on contract work where the emoluments are less than would be received for such work in private practice at the established fees; for serving any one owing another physician until he has made satisfactory arrangements for settlement, unless such patient has been certified by proper authority as an object of charity, in which case the physician appealed to would be compelled to give service gratis. It might also provide that no physician who does not belong to the Union can practice in any hospital; that if a patient has been attended by a cultist or non-member and appears for attention, he be refused service for a certain length of time, except in cases of extreme emergency or threatened death; that if the accident board fails to provide established fees, the union will refuse to serve; that medical colleges require their graduates to join the Union before receiving their diplomas, and that such diplomas would be revoked for non-compliance with the requirements of the Union.

I will admit that these are drastic measures and diametrically opposed to the humanitarianism that has been instilled into us and of which we are supposed to be the exponents; but we are facing some drastic possibilities, and the only logical way to be sure of coping with them is to use strenuous, effective methods. We would not be directly killing any one by these measures, and the only ones who would suffer would be those who broke the rules that we laid down.

The medical profession has done much in the way of prevention of disease. Practically all the scourges that, in the past, have ravaged the country we now have under control. We have undoubtedly saved millions of dollars of expense for the treatment of such diseases, by reason of their non-existence, and prevented the death of countless individuals; and instead of recompense being offered us for these money- and life-saving measures, the beneficiaries of our endeavors threaten us with penal servitude. I have never had the idea that medical science had incorporated in it a species of religious fervor, but the resignation with which we mutely take a beating and fail to resist further punishment suggests the turning of the other cheek for another slap.

The American Medical Association has done extremely useful work in standardizing remedies, making it possible for the physician following its reports to avoid preparations of no therapeutic value, and bringing to the light of day the composition of nostrums and methods em-

ployed by quack parasites of the profession. It could greatly extend its sphere of usefulness, so far as the individual physician is concerned, by evolving some effective means of solving the many economic problems looming before us. It would be an ideal organization to handle these questions in the vigorous manner I have suggested. If it does not care to undertake such activities, some other organization may be brought into existence for the purpose.

From the experience of labor unions, it is only by harsh means that satisfactory working conditions can be acquired, and following those measures has resulted, not only a complete acquiescence in their demands, but voluntarily added better conditions and increased remuneration. What we sorely need is a medical Gompers.

We have been accused of having a medical trust. Let us, if necessary, have one, and a good, healthy, strong one!

Stapleton Bldg.

## The Structure and Functions of the Nervous System\*

(The Mechanism of Sensation and Motion)

By GEORGE B. LAKE, M.D., Chicago

**O**NE OF THE chief functions of those parts of the central nervous system lying outside of the brain and spinal cord is to collect various kinds of sensations and send them up to the brain for recognition and proper action—or, in the case of a sensation that suggests imminent danger to the body or some part of it, to switch it across, through the reflex arc (already described), so that the motions necessary to escape the danger will be made automatically or "instinctively." In this work, the neurones whose cells are in the ganglia or knots on the posterior roots of the spinal nerves are involved.

The other great function of the peripheral

nerves is to transmit impulses from the brain and spinal cord which will result in voluntary and purposeful movement of the muscles. It is by means of these impulses that we carry on all the varied activities that make up the manifestations of our conscious life.

### SIMPLE MOTION

Compared with sensation, motion is a simple process, because one set of motions may be an adequate reaction to a wide variety of sensations, and because many sensations reach us which do not require motion as a response. Again, the contraction of one muscle is, in its general characteristics, very much like that of another, whether it be one of the delicate little muscles in the face or the huge mass of

\*This is the second of a series of four elementary articles on the nervous system, the first of which appeared in CLIN. MED. AND SURG. for October, 1930. The other two will follow, as space permits.

fibres and tendons in the front of the thigh, which is the chief factor in locomotion. For all that, the nervous mechanism involving motion is more complicated than many people imagine.

We must not confuse the voluntary motions, here to be considered, with the involuntary motions of the internal organs nor with the stimuli which result in the secretory activity of various glands. These activities are functions of the autonomic or vegetative nervous system (sometimes called the sympathetic) and will be discussed later.

Impulses to voluntary motion may originate in the gray matter on the outside of the brain or the gray matter on the inside of the spinal cord. In the former instance the process of thought is involved. The stimulus may come from within the mind, without any sensory irritation to initiate it—a direct act of will; or it may be the action taken upon a message brought in from without, through the sensory nerves, after a measurable period of consideration, which may, however, be so short that we are unable to appreciate it.

The motor impulses which originate in the spinal cord result in what we call reflex actions, resulting from stimuli switched directly across from the sensory nerves, without going up to the brain. The motions produced in this way are, technically, voluntary, in that they result from contractions of the "striped" or voluntary muscles, which may also be motivated by impulses from the brain. But in the practical sense of our being able to exercise any conscious control over them, they are as involuntary, for most of us, as are the movements of the digestive canal or the secretory action of the liver.

None but the very simplest actions involve only one or two neurones, or even three or four. Motor impulses initiated by the will frequently follow a decidedly complicated path from the brain to the muscle, involving several switchings from one part of the brain to another (as will be explained in the following paper), and often, in addition, passing through one or more nerve ganglia outside of the spinal cord, where they may or may not pick up some influence from the sympathetic system.

A simple motor pathway, consisting of four neurones, is shown in Fig. 5. An im-

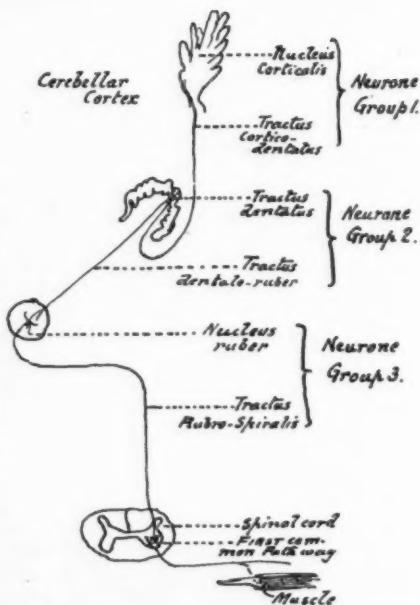


Fig. 5.—Path of a nerve impulse from the brain (cerebellum) to a muscle. (Adapted from Fig. 97, "The Form and Functions of the Central Nervous System," by Tilney and Riley; Hoeber.)

pulse, originating in the gray matter of the cerebellum, passes down through the first neurone to the dentate nucleus (also in the cerebellum), where it is transferred to the second neurone. The next relay station is the red nucleus, in the crus cerebri, near the optic thalamus, and from here the impulse is shunted to the gray matter in the front of the spinal cord, where the nerve cells which actually put the muscle into action are located.

#### COORDINATED MOTION

We sometimes wonder how the acrobats we see at circuses and other performances are able to coordinate their movements so perfectly, but few of us stop to consider that many of the actions we perform every day are marvelous examples of muscular coordination. The process of walking or running is a series of short falls, interrupted at exactly the right instant by swinging the foot forward and placing it. If these movements are not perfectly coordinated, a man will stumble and fall to the floor, as frequently happens in the condition generally called locomotor ataxia (*tabes dorsalis*), and in some forms of paralysis.

Speech requires an even more intricate

series of coordinated muscular movements. The muscles controlling the vocal cords must make just sufficient tension on these structures to give the tone required; air must be expelled from the lungs in just the right quantity and at the right time, by the action of the muscles of the chest and diaphragm; and the sound thus produced must be shaped and modulated by the motions of the tongue and lips, in order that we may utter intelligible words. We rarely give these matters a thought, though writing, reading, and, in fact, all our activities which require any degree of skill for their performance are accomplished successfully only by series of diversified and delicately coordinated motions.

The control of these complex movements has been handed over to a special nervous organ, the cerebellum, which performs its functions without engaging our consciousness, but these motions are still voluntary because, if we give them our attention, we can change the action pattern. The cerebrum gives purpose to our movements, and the cerebellum takes care of the details. The conscious man within gives, through the cerebrum, the order "walk" or "speak," and determines the goal of the walking or the subject matter of the speaking, but he does not tell the various parts and structures how to do these things. That is taken care of by a highly trained, accurate and ever-ready servant, which asks nothing but adequate food and definite clear-cut orders.

#### THE FIVE SENSES

All sensations come to us by means of the five senses, touch, taste, smell, sight and hearing. That seems decidedly elementary, but more is involved than appears on the surface. None of these senses is simple and none of them stands alone, except under unusual conditions. All are subject to censorship and modification by the higher centers of the brain. It is entirely possible that other senses will be developed in the process of evolution.

The sense of touch has at least seven distinct modifications: simple touch, critical touch, pressure sense, muscle and joint sense, the sensations of pain and temperature and the sense of equilibrium.

The sense of taste is so inextricably mixed up with the sense of smell that few people are able to distinguish between them with any certainty and regularity, or to de-

termine what part of the sensation they call taste really arises from touch or the sense of pain and temperature.

The sense of sight includes the perceptions of form, color and perspective and varies greatly in range and acuity in different individuals, and in the same individual at different times under different circumstances, so that we must be careful about declaring the truth or untruth of a matter, merely because we have "seen" it.

The sense of hearing is associated with the ear; but the inner ear also houses the organ of equilibrium. Wide variations in the range of auditory perception and recognition are also present, so that one person may hear sounds wholly imperceptible to another. Changes of temperature may effect the structures of the ear profoundly, and thus produce marked alterations in hearing.

#### TOUCH

Sensations of touch are brought to the brain from all parts of the body, but especially from the skin. Until they reach the brain they are not recognized as touch—they are merely nervous impulses which are so interpreted, in the light of past experiences, when they reach their destination. If the impulse is short-circuited through a reflex arc, resulting in immediate motion, it is not recognized as a sensation until a measurable time after the motion has been made.

Simple touch is merely the recognition of the fact that something is in contact with some part of the body, and, alone, does not convey to us any information as to the nature of the touching object. A simple experiment will illustrate this: permit someone to touch the skin of the scalp, or even that between the shoulders, with several objects of neutral temperature, using the same degree of slight or moderate pressure in each instance. It will be found very difficult to determine whether the object is rough or smooth, hard or soft, or to gain any definite idea as to its relative size, unless the differences in this last respect are very wide, or as to the exact spot which is being touched.

The sensory nerve endings for simple touch are distributed as a network, on or between the cells which make up the outer skin or epidermis, along with those which convey impressions of pain and temperature.

Critical touch is a faculty possessed, to

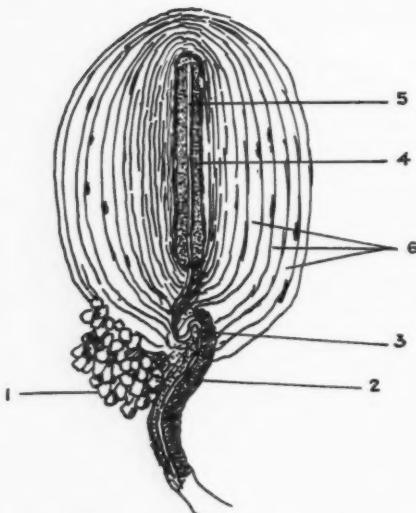


Fig. 6.—Corpuscle of Pacini: (1) Fat cells; (2) artery; (3) nerve fiber; (4) inner bulb; (5) axis cylinder; (6) layers of the capsule. (Adapted from Fig. 32, "A Compend of Histology," by Radasch; Blakiston.)

some extent, by all the hairless parts of the skin, but especially by that covering the palms, the soles and the lips. By touching an object with the fingers or lips we can gain a very accurate idea as to its surface characteristics and can localize the touched point very accurately. Lightly touch the skin between the shoulders with the points of a pair of compasses; then gradually separate the points, touching after each slight separation. The touch will be felt as one until the points are half an inch or more apart. Repeat the experiment on the finger-tip with the subject's eyes closed. Two points of contact will be recognized with very slight separation of the limbs of the compasses.

The nerve endings transmitting sensations of pressure are equipped with a special end-organ, known as a corpuscle of Pacini, as shown in Fig. 6. These are widely distributed throughout the body.

Muscle sense is the faculty by means of which we are enabled to distinguish the relative weights of various objects held in the hand and to regulate the amount of muscular force which we apply in order to accomplish different acts, such as playing the piano or chopping wood. Joint sense enables us to tell, by the feeling, whether our joints are bent or not, and if so, to

what extent, even when we cannot see them. Both of these modifications of the sense of touch require special end-organs for their transmission.

The sense of heat and cold and that of pain are conveyed by an entirely different set of neurones from those concerned in ordinary sensation. Their fibres pass up to the brain, not in the posterior columns of the cord, along with the other sensory fibers, but they cross over to the opposite side at once and go up at the sides of the cord. From this fact it will be seen why, in certain organic nerve diseases, the sensations of pain and temperature may be lost, while that of ordinary touch is retained.

The sense of general equilibrium is gained from certain nerves situated in the internal ear. We still know very little about the mechanism of equilibrium, but we have ascertained that disease or injury of that part of the temporal bone which contains the structures of the inner ear results in continuous dizziness and inability to keep the body balanced. The fact that whirling the body or douching the external ear with hot or cold water disturbs the special nerve endings and interferes, temporarily, with the sense of balance, is utilized in the examination of aviators.

Another highly specialized modification of the sense of touch is the genital sensation, initiated in the genital corpuscles which are situated in the external sex organs of both sexes.

And then, there are those nerve endings in the internal organs, about which we know little or nothing, which convey the impressions of hunger, thirst, the need for air and visceral pain.

The fact that the brain, and not the peripheral nerves, is the true seat of sensation is rather definitely proved by the circumstance that impulses of simple touch, pain, temperature, pressure and genital sensation may be produced by the same contact, but these are never confused or misinterpreted by the normal brain, even when all the various stimuli arrive simultaneously.

The sensations produced by touching certain parts of the body, as the genital organs, the breasts and the lips, may arouse the emotions of sex, but they rarely arouse what we speak of as the higher emotions, which are so frequently associated with sights, sounds and odors. The reason for this may be because touch is the most

primitive sensation and was developed before the higher faculties were manifested.

#### TASTE AND SMELL

Sensations of taste are brought to us from certain special end-organs situated in the papillae on the back of the tongue and in the throat.

There are but four true taste sensations: sweet, sour, salt and bitter. The other impressions which we call flavors are, in reality, odors. There is no taste to coffee, peppermint, onions, mutton or strawberries—except the combined sweetness and sourness of the berries. Vapors from these various foods pass up into the nose as we chew and swallow them: smelling them at this particular time, we say, "How good that coffee tastes."

The fact that sensations of taste rarely excite emotions other than those of a strictly physical nature suggests that this sense may be more primitive than are scent, hearing and sight. It is certain that olfactory sensations are capable of producing profound and complex emotional reactions, and to this fact may be attributed the powers claimed for various kinds of incense and perfumes, as well as the vague but potent stirrings within us which are caused by the odors of the waking earth in springtime.

#### SIGHT

The nervous mechanism concerned with the sense of sight is too complicated and highly specialized to warrant an attempt to describe it in this discussion. Suffice it to say that when rays of light, having passed through the refracting media of the eye, fall upon the retina an image is produced, exactly like that in a camera, and this image, complete, with the impressions of form, color and perspective, is transmitted, by the optic nerve, to the brain, where it is identified and registered as a visual perception. The visual end-organ in the retina is capable of responding to stimuli ranging in frequency from 400 to 800 billion per second.

The images produced on the retina may be distorted by irregularities in the lens system of the eye; the field of vision may be contracted or distorted by the presence in the blood of certain poisons, such as those absorbed from chronic pus infections, or by pressure upon any part of the nerve structure connecting the eye with the brain; a child may be born without the power to

distinguish or recognize certain colors, or this condition may develop in later life, with no known cause.

With all these possibilities of error in the perception of things that we think we see, we should be careful how we permit our visual impressions to lead us into hasty or ill-considered action. None-the-less, sight is, for most people, the sense through which they receive the most practically useful impressions of the universe, and its loss is considered a calamity little short of death in its disruptive power.

#### HEARING

The sensation of hearing is produced by the stimulation of a highly specialized end-organ, connected with the eighth cranial

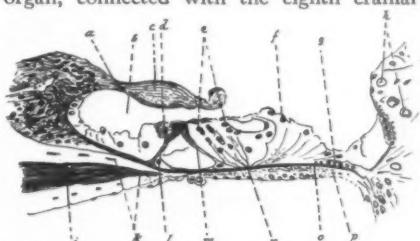


Fig. 7.—Organ of Corti: (a) Labium vestibulare; (b) sulcus spiralis; (c) membrana tectoria; (d) inner hair cells; (e) cells of Hensen; (f) cells of Claudius; (g) capillaries of stria; (h) saccular macula; (i) nerve bundle; (j) labium tympanum; (l) inner pillar cells; (m) outer pillar cells; (n) cells of Deiter; (o) membrana basilaris; (p) tympanal lamella. (Adapted from Fig. 93, "A Compend of Histology," Radasch; Blakiston).

nerve and known as the organ of Corti (See Fig. 7). Vibrations ranging in frequency from 30 to 30,000 per second, striking upon the ear drum, are transmitted by the tiny bones of the middle ear to the complicated cavity of the internal ear where, by causing agitation of the fluid which fills these canals, they move the hair-like structures of the organ of Corti and send a stimulus to the brain, which is there interpreted as sound. How it is interpreted science does not, as yet, tell us. Not by the actual cells of the brain, obviously, for those are present in a corpse, which cannot hear.

Deafness results from injury to the eighth nerve and, much more commonly, from injury or disease of the ear drum and the delicate structures of the middle ear.

Sensations of sound have the ability to determine emotional states to a very marked degree. A snatch of song, the trill of a bird or the tinkling of cow-bells may start

a train of thought which will leave us thrilled or weeping. Hearing furnishes our readiest method of communication with our fellows. Music is felt, by many, to be the highest form of human expression. And all these experiences depend upon the integrity of a little pulpy, white cord of nervous tissue, which a child could crush between its thumb and finger!

Loss of motion or sensation in any part of the body is caused by disease of or injury to the area in the brain corresponding to that part (as will be explained in the next paper); by pressure upon the parts of the spinal cord through which the sensory or motor fibers run; or by severing the nerve trunk connecting the cord or the brain with the paralyzed part. The character of the paralysis and the associated symptoms enable a trained neurologist to locate the disease or injury with great accuracy.

#### RELATION BETWEEN SENSATION AND MOTION

The simplest relation between sensation and motion is the reflex arc, which has been described. More complex reactions are exemplified by the way in which we shield our eyes or ears with our hands, against dazzling light or shocking sounds, "without thinking"—though, in fact, a definite thought process is involved in these latter actions.

Much more intricate pathways are involved in the acquirement of skill in playing a musical instrument. At first our fingers are governed by the will and directed by the eye. Later, the cerebellum takes charge of the mechanical coordination of movements and their conscious modification.

tion and direction is assumed by the senses of hearing and touch.

Glandular secretion may here be considered as a form of motion, and while such functions are largely under the control of the vegetative nervous system, they may be directly stimulated by sensations, as when the sight or smell of appetizing food causes an outpouring of the digestive juices in the mouth and stomach.

A striking example of a muscular action, motivated in a wide variety of ways, is the vasodilatation which causes erection of the penis. This activity may be caused by sensations of simple touch, locally or by referred sensations from touching certain erogenous zones, as has been mentioned; by the sight of a desirable sex object or a picture or self-summoned mental image of such an object; by certain body odors and perfumes—chiefly of animal origin; or by scents, sights or sounds which arouse memories of previous sex experiences. The inhibition or suspension of this action may, in sensitive persons, be brought about by an almost equally wide variety of psychic and sensory stimuli.

The peripheral nervous system corresponds to the transmitting and receiving instruments of the telephone system of a great city, together with the wires which connect them with the central station. They receive messages from the world without and transmit them to the ego who sits within and, in turn, bring back his orders and superintend their execution.

To gain accurate knowledge of our surroundings and control over them the motor and sensory nerves must be kept structurally and functionally sound.



#### ARTHRITIS

Arthritis touches more fields of medicine than does any other pathologic state. Its subtleties cannot be learned quickly or easily and it is a favorable augury that this problem is now in process of taking its place with tuberculosis and syphilis as one of the great chapters of medical science. Only when this has been achieved, however, will there arise that wealth of professional equipment which alone is adequate to combat it. We are today, in this country, in the struggle against arthritis, more or less in the position of Trudeau fifty years ago in the fight against tuberculosis. Those of us who have been most interested in this problem are best aware of the inadequacy of individual effort and can only hope that the great mass of right-thinking laymen and medical men will rise, as they have so often done in the past, to the call of distress.—DR. RALPH PEMBERTON, of Philadelphia, in Am. J. Med. Sc., Nov., 1929.

# Psychics and the Medical Profession

By GERTRUDE OGDEN TUBBY, B.S., Upper Montclair, N. J.

Formerly Secretary of the American Society for Psychical Research

**I**N ONE of his most readable chapters,\* Mark Sullivan gives a highly amusing summary of the contradictory history of the airplane. It is inspiring to read his terse outline.

"The airplane monster emerges. Man learns to fly, but has difficulty in realizing it. A scientist, overconfident about the ultimateness of things as they are, assures the world that human flight cannot be. Another scientist, believing it can be, tries to make it an actuality, but fails spectacularly, thereby deepening the average man's conviction that flight by man is impossible. Whereupon, two young men, not then classified as scientists, though entitled to be, proceed to fly."

Practically the same state of affairs exists at the present time in the matter of the application of the results of psychic inquiry and research. While the world stands obstinately kicking against the existence of psychic knowledge, some of its most "incurable" disorders are being cured by the skilled and experienced psychic investigator. One finds the objectors generally imbued with the idea that science has freed them from superstition, and that a major superstition of the past has been connected with the existence of any human life other than that which appears in physiologic form. One respects their desire to avoid superstition.

Certainly we must be thankful that we have been emancipated from many of the mental horrors that have beset the human race, in other lands and other times; but we need not be superstitious about superstition. One must allow facts due weight and importance in the formulation of a theory. Previous generations maintained that, if man had been intended to fly, he would have been given wings. One still sometimes hears the orthodox objection to psychic communication, that what God intended man to know about "heaven" He has revealed to him in Holy Writ or in the deliverances of ecclesiastical authority. One does not find bacteria mentioned

in the Scriptures, yet the most orthodox, laity or clergy, can find no authoritative denial equal to the task of annihilating the bacterial range of creation. Indeed, orthodox persons are among the first to call into service the experts who know how to restore health by offsetting one bacterium with another or with some other substance. The revelation of science that such creatures exist, seems to them entirely convincing. Yet perhaps not more than one in ten thousand of the general public has ever actually seen these microscopic plants and animals.

## PSYCHIC INFECTIONS

A far larger number of people become personally aware of the *psychic infections* which sometimes beset human consciousness and feeling and the finer sensibilities. We may no longer ignorantly relegate to the discard thousands of fine lives, with more than the normal sensibility and responsiveness. By supplying the better understanding that a fine-strung nature so readily responds to, society can—and society must—solve the weighty problems in physical, mental and moral health which it has created by its own stupidities, ignorance and false pride.

How may this be done?

By teaching the patient the power of concentration, to draw upon higher physical powers, and of aspiration for help for himself in getting rid of the psychic infection or infestation—for there are such things.

An illustrative case was that of Mr. B., a successful wholesale merchant, who came for aid and counsel to the office of the American Society for Psychical Research. He was getting into trouble by reason of recurrent and increasing desire for alcoholics. As a family man and a church warden he had led an exemplary life, and it shamed him to find that he was not his own master. His mind was quite clear that the problem was one of psychic sickness, but despite the mental suffering and physiologic upsets, he found himself unable to cope with the insistent, recur-

\*"Our Times, America Finding Herself," Chapter 28.

rent urge for intoxicants. He was alarmed.

Apparently his church connections were largely social and financial responsibilities, very negligibly ministering to his soul, sick with fear and forebodings. For its cure, he came to consult those who would regard him, not as a moral delinquent, but as an ethical and psychic patient.

A few conferences, some instruction and practice in the directive use of meditation and aspiration, to get into touch with unseen forces that should and would augment his own effort to be rid of the obsessive desire for drink, put him on the road to self-governance again.

Two years later I brushed elbows with him at a crowded street-crossing. My casual, "How are you these days?" brought a hearty response of, "Very well indeed," and I could see the glow of health in his face and a steady gleam in his eyes. He had learned the practicability and efficacy of spiritual aid. No hypocrisy, no fear, no sentimental lamentations or maudlin confessions on his part; no tearful condolences or sorrowful sighing on ours. Just good, straightforward facing of the facts, analysis of them to reveal the sources of strength, linking his own finer feelings and sensibilities to those invisible helpers who could augment them, just as certain physical measures can increase the body's resistance to disease.

What is a psychic obsession or infestation? How do we know that there are such? The testimony of the patient often bears witness to them. "I am not myself when I do these things. These feelings attack me;" or, "I am subject to attacks" of various sorts of feelings—discouragement, desire, weakness, temper, and even inventive and artistic gifts.

#### INNER VOICES

Spiritual growth may go along side by side with psychic maladjustment, strange as this may seem. Psychically responsive patients are sometimes more keenly sensible of finer forces and principles than are their smug or prudent critics. It is the very denseness of well-meaning friends and relatives that sometimes exaggerates the excitability of these patients. They find themselves unequal to explaining their inner experiences and conflict. If they begin by saying, "I heard a voice tell me so-and-so," the alarmists quake. "He hears voices! Mercy! Crazy people

hear voices!" So he very sanely modifies his statement to less specific terms: "I shouldn't wonder if such and such would turn out to be the case." If it does, so much the better for him, and many a man or woman has gained prestige for farseeing by this method. But if he revealed the source of his foresight, that would be quite differently regarded.

Now if a voice that has its origin within the consciousness can speak truly, why fear it? Many a set of human vocal cords seldom speaks truly, nevertheless we are not regarded as insane when we listen and judge its statements for ourselves. Superstition about inner voices must go. They are to be treated as we treat any individual: judge his statements on their merits, and act accordingly.

As a matter of fact, while most psychiatrists and physicians still actively deny the existence of any discarnate psychic factors in psychic disorders, one or two pioneers in the profession have dared call man's soul his own and, in their practice, have proved their right to do so.

It must not be imagined that the range of disorders having psychic obsessional causation is mental only. There are cases apparently purely physical, in outward appearance. Of course there are inevitable quibbles as to whether the disease or disorder is actual or only apparently so. So far as the patient is concerned, he is quite as uncomfortable in an apparently bad attack of hay-fever, even though we find, ultimately, that the case falls under the psychotic classification, as is his fellow patient who has a purely physical case. His immediate relief after psychic analysis and treatment gives him as much cause for rejoicing as would the immediate relief of any other hay-fever patient. This is not a hypothetical illustration. I am well acquainted with such a patient, successfully treated by the psychic method.

A girl who, from childhood, had been afflicted with chorea, was desperately struggling to earn her living, without relief from the physician she consulted. A few weeks of psychic treatment brought relief and ultimate cure, so that she was able to take a position in another state, away from her healer, and maintain her health.

An elderly patient, bedridden by arthritis, a burden to herself and her over-worked daughter, restored in a few months to comparative freedom, indoors and out,

with the aid of a wheel-chair, would be little inclined to quibble over the diagnosis.

Numerous cases of ineptitude, criminality, moral obliquity and the like have been found to have psychic causation and have been amenable to the treatment therefor. The present day, so beset with problems of social maladjustment, has much to hope from the psychic method. A clinic for psychic diagnosis in every city would tremendously decrease the percentage of socalled criminal cases.

#### THE WORK OF DR. BULL

An American medical pioneer in the psychic field is Dr. Titus Bull, of New York City, president of the James H. Hyslop Foundation. Dr. Bull's experience in the field covers about twenty-five years. His work has, as yet, been only fragmentarily published, in occasional papers in scientific periodicals and in a résumé of an outstanding case in "A General Survey of Psychical Phenomena," by Helen C. Lambert, who has assisted him as amanuensis. The published accounts can give but a faint conception of the discoveries that have rewarded these workers. Only one who has witnessed the dramatic progress of healing and cure, as I have, can quite realize the far-reaching possibilities and the new hope for the wellbeing of the race which their work ushers in.

**Dr. Bull says:**

"Our work with patients shows clearly the proof of intelligent forces of a spiritual nature acting with us and through us in our daily lives. Being a physician, I fully realize that much that has been called explanation has, in reality, been but description, yet I have had the experience of seeing medical conditions relieved through spiritual means in the hands of cult operators.

"With the cults that proclaim a special dispensation, as well as with orthodox religion, I have found a general spiritual law which works under many labels. This law is a force in nature, just as exact, just as capable of application as any other law, once one realizes its possibilities and makes conditions favorable for its demonstration. The use of the findings of physical science, along with spiritual power, makes for an enlightened and dignified exposition of a factor in nature which has been scoffed at and ignored by the medical profession and its leaders.

"Such work as has been accomplished has been startling in its results, and the methods used for its activity very unusual."

The table of one year's work shows startling results, indeed. Of the 23 cases treated by psychic methods, ranging in age from 9 to 52 years, only 4 have not improved, and of these, 3 ceased treat-

ment after but one month. Seven (7) still are under treatment and improving, and 11 have been cured and were able to go back into their normal environment and occupations.

The types of disorder include epilepsy, hysteria, catalepsy, fear neurosis, paranoid delusions, mental dissociation, periodic headaches, incipient paresis, melancholia, muscular tic, delusions of persecution, neuritis and dipsomania. These appalling names are having the sting taken out of them by such a year of work, and when one learns that it has all been accomplished without the advantages of a central plant, where the patient's life may be safeguarded and regulated during treatment, it is the more encouraging for the future hope of the race. Someone is bound to see an opportunity to immortalize himself or herself by generously endowing such a work and securing its perpetuity.

Of necessity, workers must be trained along this line, for the work is often involved and complex, requiring psychologic insight and patience and a very special sort of skill. In addition, it is work requiring integrity of character and a rare degree of faithfulness, from both physician and psychic assistant. Without these, failure would be sure.

The methods include a diagnosis of the patient's psychic state by a sensitive or "medium," especially developed for such purposes. He (or she), knowing nothing of the patient, save that he is an applicant for such diagnosis, sits quietly sometimes in the patient's presence, sometimes in his absence, awaiting impressions that may spontaneously present themselves to the consciousness. This often takes the form of a temporary impersonation, the invisible communicator being permitted to express feelings, memories, purposes, desires quite alien to the medium's own normal ones. Every item of this dramatization and every word spoken is noted by a stenographer who is present. The physician converses with the impersonation, elicits information of service in the psychologic riddle involved. There are regular sessions, day by day or week by week in this manner. As light is gained on the case, the patient is instructed and admonished on the attitude necessary for attaining success.

Of course, the best that medical and occupational therapy have to offer serves

the need of psychic cases in their ordinary aspects, but the addition of psychic analysis and diagnosis and psychic re-education and re-enforcement unlocks the door of

many a prisonhouse of pain, sorrow and despair and restores the patient soul, mind and body, to wholeness.

184 Bellevue Ave.

## Hemorrhage Following Tonsillectomy\*

The Use of Viosterol to Shorten Coagulation Time

By JEAN DUPLESSIS, M.D., Chicago

**E**XCESSIVE hemorrhage is a more frequent complication of tonsillectomy than the literature would suggest, because, in the general run of cases, many hemorrhages are never reported.

When a profuse or a prolonged tonsillar hemorrhage occurs, the surgeon has a major problem on his hands, but if he is well armed, mentally, manually and mechanically, there is no reason why the bleeding should ever reach the stage of exhausting the patient or of endangering his life.

### TYPES OF HEMORRHAGE

Tonsillar hemorrhages are best classified into primary, recurrent and secondary.

1.—**Primary Hemorrhage.** The amount of bleeding at the time of the operation depends upon several factors, such as:

(a) The degree of acute or sub-acute tonsillitis present.

(b) The completeness of the enucleation.

(c) The amount of trauma produced.

(d) The injury to anomalous blood vessels.

(e) The coagulability of the patient's blood.

Each of these factors warrants further discussion.

(a) *The degree of acute or sub-acute tonsillitis present at the time of the operation.* Bleeding from congested vessels is not only more profuse, but also more difficult to control. The daily treatment of the tonsils with ultraviolet rays for a few days before tonsillectomy will serve to allay any inflammation that may be present.

(b) *The completeness of the enucleation.* Tonsil stumps bleed far more profusely than clean tonsillar fossae.

(c) *The amount of trauma produced.*

This varies noticeably with the different operators, as well as with different operative techniques. The Waring suction technique,<sup>1</sup> which renders dissection unnecessary, produces a minimum of trauma, leaves the fossae smooth and clean and causes very little hemorrhage.

(d) *The injury to anomalous blood vessels.* The ascending pharyngeal or the internal carotid artery may be misplaced, enlarged, tortuous or even looped. A pulsation, and sometimes a bulging, can then be detected in the posterolateral region of the pharynx. Although these anomalies are rare, a careful inspection and palpation for their possible presence should precede every tonsillectomy.

Normally the arteries divide into small branches before piercing the capsule, but they may fail to do this, thus accounting for the vigorous spurters in some tonsillectomies.

(e) *The coagulability of the patient's blood.* The coagulation time of venous blood varies normally from five to ten minutes with the Lee-White method<sup>2</sup>. Capillary blood from a puncture gives unreliable results because its admixture with the tissue juices hastens its coagulation.

Delayed coagulation may be due to a deficiency of any one or more of the five "coagulation factors," but calcium deficiency is apparently quite common, because, in a considerable number of ambulatory cases, delayed coagulation can be corrected *in vitro* by the Lee-Vincent method of adding 3 drops of a 1 percent solution of calcium chloride to 1 cc. of blood. It can be corrected *in vivo* with viosterol in oil, 250D, five drops at each meal, for five to seven days. Gleich and Goodman<sup>3</sup> and others have shown that viosterol markedly increases the blood-serum calcium in a few days.

\*Received for publication Feb. 22, 1930.

When delayed coagulation is due to deficiency of the protein or of the lipoid coagulation factors, it usually responds readily to hemostatic serum.

In addition to laboratory tests, the patient's personal history should be investigated for a tendency to excessive bleeding. This tendency may be associated with acute or chronic infections, profound secondary or pernicious anemia, leukemia, arteriosclerosis, obstructive jaundice, melena neonatorum and purpura hemorrhagica. It normally occurs just preceding and during menstruation.

Delayed coagulation must not be confused with hemophilia in which, according to Osler, "a trifling injury, of no moment in a normal person, determines hemorrhage which has no tendency to stop, but the blood trickles or oozes until death follows or there is a spontaneous arrest."

The bleeding may last from one to several days, but the first hemorrhage is seldom fatal.

Bleeding commonly occurs into the joints, especially the knees and the elbows, causing pain and later leading to deformity. The mucous membranes also bleed readily and obstinate epistaxis is frequent. The extraction of a tooth may be followed by serious or even fatal bleeding. Renal hemorrhage without evident injury sometimes occurs.

Hemophilia is persistent but its intensity varies in different individuals, as well as in the same individual at different times. According to the law of Nasse, hemophilia is limited to males and is transmitted through unaffected females of the family only.

It is apparently due to a qualitative deficiency of the blood platelets. This differentiates it from purpura hemorrhagica, in which the platelets are greatly diminished and which occurs in females as well as in males.

The coagulation time is usually over twenty minutes, often an hour and sometimes several hours. Small punctures do not cause serious bleeding, hence a vein can be safely entered and the lobule of the ear can be pierced without danger.

The few hemophiliacs who do reach maturity, usually bleed less severely as they grow older. They practically all have some disabling joint deformity due to hemorrhage.

Blood transfusion is undoubtedly the

most satisfactory method of treatment. Immediately before imperative tonsillectomy, 1,000 cc. of whole blood should be transfused. Since the effect lasts only for about as long as the life of the platelets thus transfused, re-transfusions should be made every second day after the operation until unmistakable healing has begun.

I have had two cases of hemophilia, with coagulation-times of 20 and 26 minutes (Lee-White), respectively. I removed their badly infected tonsils with electrocoagulation and only a few drops of blood escaped. This was evidenced by slightly blood-streaked sputum during each of the three electrocoagulation treatments.

Although hemophilia is a comparatively rare disease, the family history of every subject for tonsillectomy should be investigated carefully for evidence of repeated or obstinate hemorrhage not due to severe trauma.\*

2.—**Recurrent Hemorrhage.** This may occur during the first or the second day and is due to the dislodging of the clot by the strain of gagging, vomiting, coughing, sneezing, hawking, or by straining at urination or at stool.

Recurrent hemorrhage during the first day must not be confused with primary hemorrhage which was overlooked at the time of the operation by failure to examine the tonsillar fossae minutely with the aid of a pillar retractor. If the fossae are not dry when the patient leaves the operating room, the bleeding often continues. After the patient wakes up, the usual cracked ice, by mouth, aids in the swallowing of the blood. Unless this is vomited back, thus revealing the hemorrhage, there later appears a surprisingly large quantity of blood in the stools. This loss noticeably prolongs convalescence.

3.—**Secondary Hemorrhage.** This may occur at any time from the third to the tenth day, but especially on the fifth to the seventh day, and is due to loosening of the slough before complete healing has taken place. This also is brought about by coughing, sneezing, hawking, vigorous gargling, coarse foods, hot foods or by straining at urination or at stool. Infected sloughs are especially prone to separate at the slightest strain.

Excessive sloughing results from unneces-

\*The above data on hemophilia are based largely on the work of Minot and Lee, as published in Nelson's "Loose Leaf Encyclopedia of Medicine."

sary bruising of the tissues during the operation, and from stumps left by incomplete tonsillectomy. The sloughs are sometimes mistaken for diphtheritic membranes, by the patient or by the relatives.

#### TREATMENT OF HEMORRHAGE

The logical method of controlling spurters in the tonsillar region is the same as elsewhere in surgery; namely, to clamp or transfix and ligate them. Because of the narrow confines of the oral cavity, however, the technic of ligation is mastered only after repeated practice. The average operator, therefore, will fare better by using sponge pressure first.

**Pressure.** Pressure with a gauze sponge on a sponge-holder will control the majority of tonsillar hemorrhages, providing careful attention is given to the following details:

(a) The sponge must be smooth, solid, and must fill the fossa snugly. If it is badly shaped, ragged, loose, too small or too large, the blood will escape behind it.

(b) Pressure must be applied the instant the tonsil is lifted from the throat, because unchecked bleeding vessels soon lose their tone, and then they require much more pressure than when they are compressed before many drops escape.

(c) The sponge must be introduced from the opposite angle of the mouth with a spiral motion, so as not to infold the pillars. Pressure is exerted outward and not backward against the posterior pharyngeal wall, which tends to cause retching.

(d) The pressure must not be trifled with. It must be gentle but firm and continuous. Its purpose is to stop and not to mop the blood. The sponge is changed only after it has become completely blood-soaked. The fewer sponges the better.

Dr. Charles Meding, of the Harlem Eye and Ear Hospital, says: "The slower the first sponge is introduced, the less accurately it fits, and the oftener it is changed, the more the patient bleeds."

In recurrent and in secondary hemorrhage, the clot is carefully removed under good illumination and then methodical pressure is applied. It is an advantage, in these cases, to exert counterpressure with the fingers on the outside, behind the angle of the jaw.

**Ligation.** If definite bleeding points are still present after five or ten minutes of intelligent pressure, then they should be ligated with the aid of one of the several hemostatic tonsil forceps or needles now

available. Either the Callahan or the Wells forceps will be found quite efficient.

The ligation of bleeding points in secondary hemorrhage requires great delicacy of technic, because the ligatures tend to tear through the spongy, infiltrated tissues.

**Suturing.** If pressure has failed, but no bleeding points can be found and there is persistent oozing from the entire wound, then insert a firm gauze roll of proper length and bulk into the fossa, hold it in place and suture the pillars together. After six or eight hours, the sutures are cut with scissors to release the pillars and the pack is removed. This temporary suturing of the pillars causes little or no additional discomfort and it does not result in scarring, which occurs only if the sutures are left to slough out. It is the method of choice for the few secondary hemorrhages which do not respond to pressure and which are not due to definite bleeding points.

Blood transfusion will go a long way toward speeding up convalescence in patients who have lost considerable blood.

#### ADENOIDS

The adenoids should not be removed until all tonsillar bleeding has ceased, because adenoidectomy is usually accompanied by a gushing hemorrhage which might mask the bleeding from the throat.

Adenoid hemorrhage subsides promptly, however, except in case of incomplete removal or in case of severe damage to the epipharyngeal wall by careless curettage.

A post-nasal pack, removed after 12 to 18 hours, can be relied upon to arrest excessive adenoid hemorrhage.

#### POSTOPERATIVE CARE

The after-care is just as important as the operative skill in preventing tonsillar hemorrhage, hence the patient is kept in the hospital for at least 24 hours and the following standing orders are given to the nurse in charge of the case:

#### POSTOPERATIVE ORDERS

1.—**Posture:** Until awake, keep the patient prone with the face turned to one side and with a pillow under the chest, so that the head is low. Apply an ice collar for the balance of the day.

2.—**Hemorrhage:** Watch for active bleeding from the throat, rapid feeble pulse, unusual pallor, repeated swallowing or the vomiting of fresh blood.

3.—**Vomiting, Restlessness or Pain:** Morphine and atropine, hypodermically, one dose.

(Morphine 1/12 to 1/8 grain for children and 1/6 to 1/4 grain for adults; atropine, 1/250 to 1/120 grain).

4.—Recurring Pain: Allow the patient to slowly dissolve one orthoform troche on the tongue every hour, if necessary.

5.—Gargle: Have the patient gargle gently with equal parts of hydrogen peroxide and cold water. This converts the thick tenacious exudate into a fluffy froth, which is comfortably expectorated.

6.—Keep Patient Quiet: If the patient must clear the throat or blow the nose or sneeze or cough, it should be done as gently as possible. The patient should write or gesticulate instead of talking. All strain must be avoided.

7.—Diet: Cracked ice at frequent intervals; ice cream, milk or eggnog later.

8.—Upon dismissal, give the patient several orthoform troches to take home, along with a sheet of post-operative directions, like this:

#### DIRECTIONS FOR MR. DOE SECOND, THIRD AND FOURTH DAYS:

1.—Keep Quiet: If you must clear your throat or blow your nose, or sneeze or cough, do it as gently as possible. Don't talk! Write or gesticulate instead. All strain must be avoided.

2.—Pain: Allow one orthoform tablet to dissolve slowly under your tongue every hour, if necessary to relieve pain.

3.—Gargle: Gargle gently with equal parts of hydrogen peroxide and cold water after each meal and at bed time.

4.—Diet: Take only bland, cold liquids and soft foods, such as milk, eggnog, junket, custard,

ice cream. Drink cold water freely; large swallows are more comfortable than small sips.

5.—Laxatives: Take a tablespoonful of mineral oil emulsion at bed time.

6.—Bleeding: Any fresh bleeding must be reported immediately.

7.—Report at the office for ultraviolet treatment on the third or on the fourth day.

8.—Thereafter, all foods which can be swallowed with comfort are allowed; but coarse and very hot foods should be avoided until the throat has healed. Continue to drink water freely.

#### CONCLUSION

The responsibility for excessive tonsillar hemorrhage rests largely with the surgeon. It usually results from his failure to take the necessary preoperative, operative and postoperative precautions.

If every tonsil surgeon would cultivate the necessary habit of mastering details, hemorrhage will soon cease to be the bugbear of tonsillectomy, to the laity as well as to the profession.

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17 North State Street.

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### THE GENERAL PRACTITIONER IN PUBLIC HEALTH

*The practitioner of today cannot work alone; he finds the services of the laboratory, among other things, indispensable to him. Also, whether he realizes it or not, he is part of the organization which we call Public Health.*

*It would seem very desirable that every local medical society should appoint a public health committee, which would be a body reflecting the views of the general practitioners in that district and competent to express these to the local public health department.*

*Organized public health work will not destroy the practice of medicine; it merely calls for different methods in the practice of medicine, which the general practitioner can meet if he desires.—DR. A. G. FLEMING, Montreal, in Canad. M. A. J., Jan., 1930.*

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### FREE VACCINES

*Physicians who beg free vaccines and antitoxins from health departments, are increasing tax burdens, contributing to the fallacy of State Medicine and tightening the knot that will choke to death their chances for financial and scientific success. It is dishonest to administer health department products and charge the patients for the service.—DR. EMMETT KEATING.*

# PHYSICAL THERAPY AND RADIOLOGY

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## THE GRAHAM-COLE TEST

**I**N THE interpretation of films in the Graham-Cole gall-bladder visualization, whether the tetraiodophenolphthalein is administered orally, in the form of the emulsion, or intravenously, one of the most important diagnostic points is the shape and contour of the gall-bladder shadow.

Much has been said as to the density of the shadow and the presence of shadows of less density within the shadow of the dye-filled gall-bladder, which may or may not be calculi, and whether or not emptying is delayed after the ingestion of the fat meal. Mention is usually made of a distorted shadow, but we believe that enough stress has not been laid on this very important evidence of gall-bladder disease.

A gall-bladder may fill in a perfectly normal manner and a roentgenogram be obtained which shows a shadow of the usual or more than usual density; but a deformity in contour nearly always means some pathologic change in the gall-bladder wall or adhesions to adjacent viscera.

The question of whether or not stones are present, is really of minor importance, as the presence of stones *per se* is no in-

dication that operative procedure is necessary.

If the surgeon can be assured that a pathologic gall-bladder is present, it is not difficult for him to decide whether or not operation is necessary.

W. H. G.

### Physical Agents in Pneumonia

Diatherapy has definite clinical value in the treatment of pneumonia, based upon the results in 100 cases so treated, compared with the results in 100 cases otherwise treated.

The anteroposterior method through the lobe involved is preferred, using block tin electrodes and running the milliamperage up to the comfortable tolerance of the patient. Usually a current of from 1000 to 1500 milliamperes is maintained from 20 to 40 minutes.

Oxygen treatment is definitely indicated in cases with cyanosis. The gas is supplied either through an intranasal catheter or by means of the Roth-Barach oxygen tent. By the first method the oxygen contained in the air may be increased to 30 or 35 percent and, by the second, to any desired level usually 40 to 50 percent.—DR. S. T. SNEDECOR, Hackensack, N. J., in *Physic. Therap.*, Aug., 1930.

# The Roentgen Rays in Diagnosis and Therapy

By I. S. TROSTLER, M.D., F.A.C.R., F.A.C.P., Chicago.

**T**HOUSANDS of well informed, careful, conscientious and thoroughly competent physicians in regular practice do not make sufficient use of the roentgen or x-rays. Many of these are among the older men, who got along without the employment of this useful adjunct, before its advent, or its development up to its present usefulness; while not a few others fail to employ these rays for various other reasons. This is particularly true away from the larger cities; but it is not so much because of the inaccessibility of the apparatus as would appear from casual observation.

The rapid development of roentgenology, during the thirty-five years since the discovery by Roentgen and its first introduction into medicine, has probably been one of the reasons why the application by the general practitioner has lagged somewhat behind that of the hospitals. In fact, this new science has advanced with such an impetus that only specialists, who devote all their time to its study, have been able to keep up with the rapid strides it has made.

## DIAGNOSIS

Every physician must realize that there are certain obscure pathologic conditions, where the use of roentgenology would give more light upon the diagnosis. This occurs often enough so that the lack of this diagnostic aid must act as a handicap, and failure, on the part of the physician, to use it, when it would or even might be helpful, is a decided damage to the unfortunate patient.

Much has been written about the advantages of roentgen-ray examinations; many addresses have been delivered and papers prepared and presented at medical meetings; but there is still a considerable number of physicians, most of whom are general practitioners, who seem to think that these presentations are intended for specialists, and who either will not listen when these papers are presented, or will not read them when they are published, unless they are actually pushed under their noses. I know this because, for more than thirty years, I have been telling physi-

cians about roentgenology, by word of mouth and by my pen, and at this late date, find many who are still uninformed or misinformed.

It is a well recognized fact, in the best informed medical circles, that among the various methods in use, in making the diagnosis of gastric and intestinal diseases easier, more accurate and surer, nothing is so distinctly helpful as the intelligent use of the roentgen rays. Here, with the administration of the barium meal, the entire gastric and intestinal tract may be outlined and studied first hand with the fluoroscope, and recorded upon films, for verification, measurement, further study, comparison, etc., when deemed advisable or necessary.

In the thorax, the heart and aorta may be accurately measured and studied; the lungs, pleura, mediastinum, esophagus and diaphragm searched for lesions; the presence or absence of obscure glandular disorders or tumefactions determined, in a manner incomparably more definite and with greater clarity and certitude than by all the other diagnostic proceedings combined. This is not guess-work, but can be proven any day and by any competent roentgenologist.

In the gall-bladder, before the advent of recent methods, only a clinical diagnosis was possible, and more guess-work was used than conservatively honest physicians like to admit. Today, with the use of cholecystography, much highly valuable information is elicited. We can usually tell the size, location and state of function of this sometimes troublesome viscus.

In the urinary tract, the percentage of renal, ureteral and vesical stones shown is relatively high, while other abnormalities of these organs, like tuberculosis, pyelitis, tumors, dilatations, kinking, etc., may usually be shown and correctly diagnosed. A new method for the study of the urinary tract, by means of a new chemical, has recently been brought out, which gives promise of rendering the somewhat feared and occasionally painful ureteral catheterization unnecessary, in a large number of cases.

Intracranial and intraspinal tumors may be studied and are frequently diagnosed by roentgenographic methods; while in the bony skeleton, deformity, disease, anomaly and frequently the type of microscopic finding which may be expected, can be determined from roentgen-ray examination.

Fractures and dislocations, either apparent or suspected, should invariably be given the benefit of roentgen-ray examination, whenever and wherever possible. It is a fact that x-ray examination of fractures and dislocations has become so much a part of the proper treatment of these conditions that, in some ten or twelve states, the Supreme Courts have rendered decisions that "treatment of fractures and kindred conditions without the use of x-ray studies, when these are obtainable, constitutes negligence and malpractice."

#### THERAPY

But the roentgen-rays have a wider use in medicine than that for diagnosis only. Most physicians know that, but at the risk of becoming didactically boresome, I am going to enumerate a few of the outstanding conditions, where roentgenotherapy will be found to be, either curative or a valuable palliative therapeutic adjunct.

First and foremost, we have what is undeniably one of the two best remedies for malignant disease, second only to surgery in some types and locations, and preferable to surgery in others.

In *uterine fibromyomas* and *uterine hemorrhage*, x-ray therapy is and should be the method of first choice, in properly selected cases. Formerly we used to hesitate to treat these conditions, in the presence of infections of the female genital tract, but the last few years have brought out so many reports of favorably influenced inflammatory gynecologic conditions, that there are, at this time, few conditions where the roentgen-ray therapy is contraindicated.

In dermatologic conditions, there is scarcely any form of disease of the skin, characterized by thickening, itching, marked chronicity, etc., that is not benefited or cured by the proper application of the x-rays: In fact, the x-rays have a wider range of use in dermatology than any other single therapeutic agent.

In *acne vulgaris*, this method, combined if desired with some of the other methods of attack, will clear up the face of that sweet

young school girl better, quicker and with less defacing scars, than anything else known in medicine. Calluses and corns melt away like snow under a warm sun, and carbuncles and furuncles ripen, drain and heal much more rapidly and with less scarring than with any other method of treatment. *Blastomycosis*, *streptothricosis* and *actinomycosis* heal and disappear, and *keloid* softens and flattens out under the benignant influence of these rays. *Hyperidrosis* and *bromidrosis* (the cause of the much advertised "B. O.") can be dried up, in part or in toto, as desired; and *pruritis*, that irritating condition, which so often makes the average physician wonder what next to try, can almost always be controlled and cured. *Leukoplakia*, those white patches, which are so frequently followed by cancer, can be eradicated, and *warts* and *condylomas*, in the various dry and moist parts of the body, can be eliminated by mild applications. *Psoriasis* and *lupus vulgaris* are frequently so much benefited that we feel like recommending the x-rays in these most intractable diseases.

In eye conditions, we have successfully treated that most chronic disease known as *interstitial keratitis* with decided success; while cases of *trichiasis* are subjected to the x-rays, carefully directed to the hair follicles, and the condition cleared up. *Marginal blepharitis* and *vernal conjunctivitis* cases frequently yield to radiation, properly directed.

Among the ear conditions which are helped and benefited are *eustachian catarrh* and its complications, *otosclerosis* and *chronic otitis media*. The only sure method of cure of *salivary fistula* is the x-rays.

Among the bone and joint diseases which are ameliorated and sometimes completely cured, are *chronic osteomyelitis*, *chronic synovitis*, *arthritis*, *tenosynovitis*, *ganglion*, *surgical tuberculosis* of bones and ununited fractures (a deposit of calcium is stimulated in the last-named condition).

Gland conditions amenable to roentgen irradiation are numerous. The most important and commonest of these is *toxic goiter*, where it is as nearly specific as is surgery, while it has few of the drawbacks that surgery has. There are many points wherein radiations should be preferred instead if surgery in the treatment of thyrotoxicosis, among which are: absence of operative risk; absence of anesthetic risk; no scar on the neck; no fear of operation

by the patient and relatives; ability to stop or continue the treatment, as indications and symptoms suggest, etc. In *hyperplastic* or *hypertrophied thymus*, the gland and the symptoms caused by it disappear when properly radiated, and this without any danger to the life of the patient. *Tuberculous lymphadenitis* should be treated by no other method than by x-rays, while many of the *simple inflammatory* or *infectious lymph gland swellings* melt away before these rays, rapidly and without scar or deformity.

In the group of diseases known as *lymphoblastomata*—that obscure and troublesome quintette consisting of *Hodgkin's disease*, *lymphosarcoma*, *lymphocytoma*, *pseudo-leukemia* and *lymphoma*—there is more to be hoped for in the way of benefits than by any other method of therapy. In some of the cases, I have had such brilliant results, particularly in lymphosarcoma in the neck (on account of its accessibility), that I feel that we should give the patients the benefit of the method and prolong the lives and reduce the suffering of such as do not receive actual curative effects.

In *mixed tumors*, that group of mildly but surely malignant neoplasms, we have splendid results if we can keep the knives of the surgeons out of the tumors until we have destroyed their malignant tendency. Then, if the deformity produced by the particles of cartilage, bone, etc. is objectionable, these may safely be removed surgically.

In certain cases of *prostatic hypertrophy*, I have reduced the size of the gland, so that suffering was abated and urinary symptoms were reduced or disappeared entirely. These effects occur in *granular hypertrophy* and not in cases where there is a fibrous overgrowth.

In neurology, the x-rays have markedly benefited a number of the various forms of *neuritis*, such as *sciatica* and *occipital and intercostal neuralgias*. A few cases of that rather rare and obscure disease, *syringomyelia*, have been helped by roentgen irradiation of the spinal nerve roots,

and the excruciating pain of *thromboangiitis obliterans* has been markedly alleviated.

The pathologic conditions and diseases just enumerated, do not, by any means, exhaust the list of those amenable to relief or cure by the therapeutic application of the roentgen-rays, but should be sufficient to convince the reader that much benefit may be had from the proper application of this versatile agent. If I have succeeded in leaving the lasting impression that the roentgen rays are not used sufficiently for the patient's benefit, and that the more they are used, the better will it be for the patient, I shall feel amply repaid.

Do not let it be understood that every person who owns or is able to operate an x-ray apparatus, is competent to or should be entrusted with the diagnosis or treatment of human ailments, by means of the x-rays. Only graduate licensed physicians should be permitted to do this, and those who are qualified by long experience and special training are, of course, more competent than those who have had little experience in the application of these methods.

Nurses and technicians may be able to make good roentgenograms or socalled x-ray film negatives; but they are not competent and should not be called upon nor permitted to make diagnoses, and least of all, to prescribe or administer x-ray treatments, except under the direct supervision of a competent radiologist. No sane person would accept the diagnosis of a nurse or technician or permit a nurse or technician to operate surgically within the abdomen, and this is as serious as either of these. We have well known and certainly acting antidotes for even our most potent drugs; but there is no antidote for overdosage of the x-rays.

There are competent roentgenologists in nearly every community of any considerable size in this country, so that there is no good reason why your patients should not have the benefit of their services.

25 E. Washington St.

### THE GREAT MAN

*The man who makes himself truly great in any calling, is the one who has sense enough to know a good thing when he sees it, and decision of character enough to use it, wherever he may find it.—J. PROCTOR KNOTT, Governor of Kentucky, in J.A.M.A.*

# Static Currents in the Treatment of Arthritis

By WILLIAM MARTIN, M.D., Atlantic City, N. J.

Member American Medical Editors' & Authors' Association.

**T**HE various methods of treating arthritis that are usually found in the textbooks include little or nothing pertaining to the use of the static currents, therefore it would seem fitting that some mention in this way might have interest to the readers of this journal.

While not proposing to deal extensively with types, etiology and pathology, it will be in line to touch upon these phases briefly, in order better to understand the reasons for using the static currents in the treatment of this affection.

According to the accepted dictum, there are two definite and distinct types of arthritis which are outstanding; the atrophic or non-productive and the hypertrophic or productive\*. The classification was accepted by the American Commission on Rheumatism in 1928. The atrophic is often monoarticular or a limited polyarticular variety and is the type usually seen in the average practice. There are various other types of a special origin, such as gonorrhreal, luetic, tuberculous and mixed. These will not be considered here separately, since they require individual kinds of therapy.

Each kind of arthritis may have its various stages and activities, according to the virulence of the infection. It is a difficult matter to determine the etiologic factor definitely in each case, but it is generally presumed to be some form of infection. Together with this background, we may have various other subsidiary etiologic factors, such as age, climate, diet, hormone disturbances and numerous other things. One factor, trauma, is worthy of mention, since this type is particularly amenable to the static current treatment.

The pathology varies with the form of arthritis, as for instance, in the atrophic type, the original lesion arises in the synovial membrane, while that of the hypertrophic type starts in the cartilage, according to some authorities. In the deformans type we find necrosis of the bone and marrow near the joint but, so far as is known,

there is no reliable evidence to prove that organisms have been recovered from these areas or from the joint fluid, to show an infective origin.

The usual pathologic changes, such as swelling, local congestion and inflammation, are followed by an increased growth and desquamation of the living cells, with infiltration of the membranes with lymphoid cells. This is followed by definite articular and periarticular changes producing, not only painful effects, but also limitation of motion of the joints, with incapacity.

The symptoms are those that usually accompany a low grade of inflammation, such as pain, swelling, redness, stiffness and finally deformity, with limitation of motion.

Diagnosis is usually easy, but there are cases that are atypical. These offer some difficulty, but a careful roentgenographic study will often clear up the diagnosis. In spite of negative x-ray findings, with symptoms referable to the knee joint, mistakes have been made. The diagnosis of arthritis of the knee has, at times, proven wrong, the cases being sciatic neuritis, as proven by treatments for this condition. Numerous cases could be cited, but will be omitted.

Treatment of arthritis varies considerably according to the physician in charge. It is the purpose here to confine the discussion of therapy to the static currents, while acknowledging that these currents are not a cureall nor always applicable, in all cases nor in all stages. This same statement applies to the great assortment of drugs generally used, as well as to any other form of therapy.

The particular value of the static currents is to relieve the congestive or inflammatory stage of such cases as are seen early enough to treat satisfactorily by this method. There is an accumulation of lymphoid material in the cellular tissues which must be expressed if relief is to be obtained. It is here that the static currents show their value, for the mechanical effects of these currents accomplish that which no other agency can possibly do. This value

\*Pemberton classifies these as Atrophic or Proliferative and Hypertrophic or Degenerative.

is manifested *prior to the stage of hyperplasia*, after which we cannot expect to get such results. The static wave current is particularly effective, but at times it is well to supplement it by the use of static indirect sparks. It is presumed that the readers know what is meant by these terms, although the static currents are not so well known in some communities as in others.

#### TECHNIC

In those very acutely involved cases, where the static wave current might be too painful for comfort, we use the static brush discharge or the blue pencil effluvium. This latter is always of great value in the acute stage, in addition to the wave current. Just as soon as the wave current can be satisfactorily used, it should be applied.

The electrodes are of composition metal, flexible so they can be molded to the part. The electrode is wet and applied with care, so that it is well approximated to the skin. This is to avoid sparks which are irritating and disagreeable, although harmless. There is no need of the lubricant or soapsuds which some advocate. These interfere with the current penetration. While this makes less difference than it would in the use of the low-tension and high-frequency currents, it is entirely unnecessary to use anything but warm water. This makes a close fitting possible and the current enters without friction sparks. The treatment time is usually twenty minutes to a part, but longer periods are permissible.

When we have patients with several areas to be treated, and time is an element to be considered, we use the static induced current instead of the wave current. This allows the use of two metal electrodes. In giving this current we use two Leyden jars in circuit and, with an electrode attached to each side, we have the double treatment which cuts the time in half. This particular current is given without the insulated platform, if so desired, while the wave current, being a unipolar type, requires the insulated stand.

In using the induced current we have the same value, as regards expression of the infiltrate, but we miss the systemic values. In the wave current treatment there are definite metabolic effects that are lacking in the induced type. This makes the latter a purely local form of therapy.

When we use the brush discharge or the

blue pencil effluvium, we change the grounding arrangement. With the patient upon the insulated stand, the positive side is grounded instead of the negative as with the wave current. The patient grasps a connecting rod from the negative side. The physician holds an electrode grounded to a secondary separate ground, not attached to the machine. Holding this toward the part to be treated, with the machine running at fair speed, there is an effluvium apparently projected toward the patient, when, in reality, it is drawn from the patient. This gives a sensation of very fine sparks, rather pleasant upon the whole—certainly not unpleasant. This is given for about ten minutes, in the average case.

Recognizing that arthritis is a local manifestation of a systemic condition, we must meet the general needs of the system if we expect to have success. Because of the part the liver plays in all infective conditions, as well as from the fact that it is the largest blood organ in the body, we should expect it to be influenced in arthritic afflictions. In fact, I have generally found it involved and therefore give it the necessary attention in all cases.

A careful examination will usually show some engorgement, therefore application of the static wave current over the liver area is indicated, and is what all such cases should receive. This will express organic engorgement, as it does local infiltration. In addition, it has definite metabolic value in another direction; that is, its stimulant effect upon the autonomic nervous system, through its plexuses.

In giving the static wave current over the liver, it is important that the spark be long and the speed slow, so that there will be no cramping effect. The current, so applied, will be pleasing and its effect pronounced.

To sum up, we find that the static currents have a large field of usefulness in the earlier stage of arthritis, by removing the circulatory stasis and the resultant infiltrations. This removes the pain and swelling and makes the patient more comfortable, as well as tending toward a more speedy recovery. In addition, we secure valuable metabolic effects that are pronounced, all of which are therapeutic values not generally recognized by the profession, but which should be emphasized whenever possible.

117 S. Illinois Ave.

## CLINICAL MISCELLANY

### Reasons for Failure with Diathermy

MANY papers have been written on the successful treatment of various types of disease with diathermy. Some of these papers contain a brief and concise technic of the mode of application of the treatment. Usually a physician will report his findings only when he has been successful and has worked out a suitable technic.

There are, however, hundreds of silent physicians who have been endeavoring to obtain similar results, but have been unable to do so. These men are sincere, earnest and reputable physicians, but they have not been able to report in the glowing language of their colleagues the success of certain treatments with diathermy. The question naturally arises, why have these men failed, where others were successful?

In order to answer a question as perplexing as this, one must do a great deal of investigating. In the first place, in order to prove that the successful physician is really successful, one must know if the results obtained in the treatment were uniform in the majority of cases. We are all prone to report extraordinary results in a few cases, without waiting to see if these results will stand the test of time, and for that reason we can sometimes discount an article if it is not accompanied by sufficient clinical data to substantiate it.

It is the purpose of this paper to show why failure to obtain results may be due to faulty technic or to defects in the construction or operation of the diathermy machine.

#### Placing of Electrodes

One of the commonest errors in technic is the improper placing of electrodes. This usually occurs where the technician is treating a joint, such as a knee, elbow, ankle or shoulder, where plate electrodes are used.

One of the fundamental rules in the use of plate electrodes is that they should, if possible, be parallel and equidistant. A great many times these plates are too large, and, though they are parallel and equidistant, the edges of the one electrode are so close to the edges of the other that the current, instead of passing through the

part, goes directly from one edge to the other, giving a high milliamperage reading, but with little or no heat in the joint itself. The proper technic is to use smaller electrodes, placed parallel and equidistant, and much more heat through the joint will be the result.

#### Poor Contact Due to Defective Clips

This condition is usually a mechanical one and is due to the poor workmanship of the manufacturer or to carelessness in applying the clip to the electrode. In the first condition, poor contact is the result of the faulty soldering of the clip to the cord, or of the adaptation of the clip to the cord tip. In the second case, the technician applying the clip may carelessly put it in poor contact with the electrode, thereby cutting down the efficiency of the equipment.

#### Burns Due to Poor Contact

Many failures are due to poor contact. Technicians produce burns for several reasons: poorly fitting electrodes, lack of conducting material under the electrodes, and the "pushing" of current through the part. Unless the electrode is properly moulded to fit the part, all rough edges are removed, and it is in good apposition, burns are likely to result. Conducting material, such as salt water, soap or perspiration, is essential under an electrode, if success is to be obtained.

Fair skins, bony protuberances and lack of circulation are sometimes the causes of burns under electrodes; but the greatest cause of burns is the increasing of the current beyond the patient's tolerance and causing an arc at a certain spot. This can be avoided by keeping the current below the tolerance point and adjusting the electrode when hot.

#### Dull Ache Caused by too Much Voltage

This is a common occurrence in the treatment of extremities, and usually results in the failure of the treatment. The part treated is usually an ankle or a wrist and, after the treatment has been applied for fifteen or twenty minutes, the patient

feels a dull ache through the limb. This continues with increasing severeness until the treatment is terminated. In some instances, the ache becomes so severe that treatment must be stopped and the case will quite often grow progressively worse. The cause is too much voltage through the part, causing too great a hyperemia in the vessels. To correct this, the rheostat voltage control should be lowered until all aching disappears.

#### *Faradic Sensation*

This can be due to loose connections in the machine, poor contact of electrodes, faulty condensers or poor contact of Leyden jars on bases or connections. These, of course, are mechanical troubles and can be corrected easily.

#### *Loss of Power in Machine*

This may be due to lack of water in the Leyden jar of machine, a short circuit in resonator or transformer, or to the use of too-small a rotary converter, where direct current is used.

#### *Stimulation or Sedation*

The question of results desired has a bearing on the results obtained in the treatment of diseases with diathermy. If for no other reason than the psychologic effect upon the patient, the method of starting the treatment slowly, and building it up slowly is the best in some cases, but I believe that a greater effect is produced when the current is turned on abruptly. This effect is the excitation of the reflexes. Experimentation upon animals, with the first method—that of sedation—shows very little muscular reaction but with the second method, the animal was visibly startled by the quick action of the current.

In conclusion, I wish to emphasize that while there are many cases in which diathermy has proved a failure, there are many more cases where it would probably have been a success if the proper technic had been employed.

There is a saying, "The little things are those that count," and it is hoped that this paper has brought these "little things" to the attention of those who have had trouble and failure in the use of diathermy.

HERBERT G. FRANKEL, D.D.S.  
St. Louis, Mo.

#### *Quartz Tube Lamps*

Great care should be exercised in keeping the quartz tube of an ultraviolet ray

lamp clean. A tube with fingermarks may lose as much as 10 or 12 percent of its transmitting power.—A. L. M. DINGEE, S.B. in *Physic. Therap.*, May, 1930.

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#### Radium in Cancer of the Breast

It is now ten years since I realized the fact that a combination of operation, to remove the external disease, with buried radium tubes to reach its intrathoracic extensions was the method of choice in the treatment of cancer of the breast.—DR. W. S. HANDLEY, Lond., Eng., in *Practitioner*, Lond., Oct., 1930.

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#### Sunlight Type Lamp and Rickets

Observations made on three rachitic infants showed that weekly erythema-producing exposures of both the front and back body surfaces, to the rays produced by the sunlight type S-1 (General Electric Co.) lamp, brought about healing (as shown in the roentgenogram and in the blood) within the same time as established previously for similar weekly exposures of rachitic infants to the quartz lamp.

This lamp is a combination incandescent tungsten-mercury arc, housed in a glass bulb which is permeable to ultraviolet rays of a wave length of 2800 A.U.—DRS. H. J. GERSTENBERGER and G. R. RUSSELL, of Cleveland, in *J. A. M. A.*, April 5, 1930.

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#### Disseminated Sclerosis Treated By Light

A case of unquestioned disseminated sclerosis in a middle-aged woman, showed remarkable recovery after a year's treatment by exposure to the carbon arc lamp three times a week, individual sittings never exceeding 20 minutes.—DR. F. HERMAN-JOHNSON, in *Brit. J. Actinother. & Physiother.*, July, 1930.

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#### Ultraviolet Irradiation and Experimental Tuberculosis

Guinea pigs, experimentally inoculated with Koch's bacillus and then treated by ultraviolet rays, survived from 7 to 8 months, as compared with the 2 to 3 months survival of non-irradiated controls.—DRS. DARULESCO, GIROD, and ENACHESCO in *Presse Méd.*, Paris, Aug. 2, 1930.

## RECENT ABSTRACTS

### Roentgenography of the Female Pelvic Organs

In 1926, Stein and Arens described their combined use of pneumoperitoneum and iodized oil injections for gynecologic diagnosis.

In *Am. J. Surg.*, Mar., 1930, Dr. J. Jarcho, of New York, reports on his use of this method. He has devised an instrument—the pressometer (See *CLIN. MED. AND SURG.*, June, 1930, p. 470)—for introducing air or opaque media into the uterus, urinary bladder or kidneys, with a siphonometer for perabdominal and peruterine introduction of oxygen or carbon dioxide. From 800 to 1,500 cc. of the gas may be introduced and, after 3 cc. of the opaque oil medium are introduced into the uterus, the first roentgenogram is made. More of the oil is then injected and additional plates taken at intervals.

In the hands of beginners, the author thinks that oxygen is best used, because it is more slowly absorbed and allows ample time for roentgenography. In skilled hands, the use of carbon dioxide contributes to the comfort of the patient.

Use of the combined method enables the clinician to map out normal and abnormal states of the pelvic viscera, outlines the inside and outside of the uterus, brings out the sphincters sharply, shows the fallopian tubes and ovaries and often makes neoplasms of the uterus and adnexa plainly visible.

The procedure should be performed in the hospital under conditions of strict surgical asepsis.

### Correlated Physical Therapy

In this country there has been developing, during the last fifty years, an organized or systematic physical therapy which differs radically from the old system, imported from continental Europe in the early decades of the last century, in three important particulars: (1) The correlation or adjusted combination of curative agents in their simultaneous application to meet therapeutic indications; (2) the use of water, air, light, electricity, diet and every other agent employed in a strictly rational way, that is, in accordance with its known physiologic effects; (3) the control of every therapeutic project by scrupulously careful preliminary diagnosis and frequent checking by the best known methods.

Correlated physical therapy organizes its therapeutic artillery for a broadside attack. Such a method requires a definite aim, a plan and a concert of procedure. A mere assortment of measures is a therapeutic jumble, not a rational prescription.—DR. J. H. KELLOGG, in *Bull. Battle Creek San.*, Apr., 1930.

### Antiseptic Solution for Pyelography

Although several antiseptic solutions for pyelographic purposes are in use, most, if not all, of them are irritating to the bladder or urinary tract mucosa.

In *J. Chemotherapy*, Apr., 1930, Dr. H. M. Ginsberg, of Philadelphia, states that he found that Metaphen, which contains approximately 60 percent of elemental mercury, if added to sodium iodide, will make an excellent, non-toxic, non-irritating antiseptic medium. This solution will not be precipitated by urine. It may be administered intravenously without harm.

A mixture containing 12.5-percent sodium iodide and a 1:2,000 Metaphen solution is generally used but, in obese patients, a 15-percent sodium iodide solution is necessary to get clear pictures.

This germicidal mixture decreases the possibility of carrying infection to the bladder.

### Cryoatherapy (Cold Air Treatment)

In *Physic. Therap.*, May, 1930, Dr. A. B. Olsen describes the cold air bath therapy in use at the Battle Creek Sanitarium. The patient is gradually initiated in the "frigidarium," a special department within the Sanitarium, the temperature of which is regulated. Finally, cold air baths are given outdoors when the atmospheric conditions suit. The frigidarium temperature is gradually reduced to the freezing point as the patient becomes inured. Exercise, active and passive, is of course an adjunct of cryoatherapy.

The benefits obtained from exposure of the bare skin must be credited to the tonic and healing virtues of both light and fresh air.

The great majority of people in this country put on too much clothing and also overheat their homes and offices. Overclothing the skin prevents it from direct contact with the sunlight and the fresh air and it fails, on this account in its prime function, that of protecting the body against changes of temperature. The normal healthy skin protects the body from cold and chills by adjusting it to the changing temperature and humidity of the atmosphere.

Cold air is one of the finest and most effective tonics, which affects all the organs of the body, including the brain, and leaves no depressing effects.

### Radiation Therapy of Tonsils

An estimate of the value of radiation therapy of the tonsils, based on the study of 259 patients during the past 6 years, is given by Dr. Lelia C. Knox, in *J.A.M.A.*, Mar. 8, 1930.

From this study it is concluded that x-rays should not be used in acute follicular tonsillitis; sepsis; generally not in acute leukemia, even with tonsillar masses; mononucleosis; Vincent's angina; syphilis; diphtheria; scarlet fever or abscess of any type. It is contraindicated in acute sinusitis and probably is not of much value in the chronic types.

The indications for tonsillectomy and for roentgen irradiation are, in any case, more clinical than morphologic or theoretic; but, in

general, the pathologic conditions most amenable to irradiation are chronic hyperplasia, whether simple or on a known infectious basis; chronic interstitial tonsillitis only rarely; and chronic atrophic tonsillitis, associated with chronic hypertrophic glossitis or pharyngitis.

### Control of Colds by Ultraviolet Rays

Based on the belief that deficiency of sunlight ultraviolet rays is one of the strong factors for the prevalence of colds in winter, and that epidemics of colds occur principally among cold-susceptible persons, Drs. G. H. Manghan and Dean F. Smiley, of Cornell University, state in *Brit. J. Activ. & Physiotherapy*, Sept., 1930 that a solarium in which 60 students could be irradiated in one hour was established for the university students. The equipment consisted of one set of 50-inch mercury vapor lamps (corex D. Tubes, 15 in number) arranged in such a way as to expose 15 men at one time, each receiving irradiation from one lamp for one minute and then moving forward to the next lamp and so on for the 15 lamps, thus receiving a total of 15 minutes' irradiation. The results indicated a reduction of 58.8 percent in the number of colds among the irradiated, cold-susceptible students.

### BOOKS

#### Morse: Galvanism and Sine Current Technic

**GALVANISM AND SINE CURRENT TECHNIQUE.** By Frederick H. Morse, M.D., Ex-President of the American Electro-Therapeutic Association, U. S. Delegate to the International Congress of Physiotherapy at Rome, 1907, and at Paris, 1910; author of "Low Volt Currents of Physiotherapy," etc. Boston, Mass.: The Tudor Press, Inc. 1930. Price \$6.50. (Through McIntosh Electrical Corporation, 223-33 N. California Ave., Chicago.)

Knowing Dr. Morse's reputation as a practitioner and exponent of physical therapeutics, being one of the founders of our oldest physical therapeutic society, and his claim to authority in this branch of practice through many addresses, papers and some books, we approach this work with eager anticipation.

Its beautiful appearance, in paper, print and illustrations, is pleasing to the eye and the list of topics and the thirty-one chapters and the titles of the 101 illustrations heighten our desire to partake of the promised information.

As soon as we enter the text and as far as we may go, even to the last paragraph, we are doomed to a keen disappointment. The chapters rarely exceed ten paragraphs and these are mostly rhetoric. Some chapters are merely the explanations that should appear beneath the accompanying cuts. The information given is sketchy and often obscure and contradictory. The statements regarding the physics of direct currents and of surging alternating currents are

open to criticism and the explanation of their physiologic action and therapeutic indications leaves a great deal to be desired, when measured by a simple scientific standard for practical clinical application.

The nomenclature is almost entirely of the author's own devising, and inasmuch as he is not certain about it himself, it does not inspire confidence. The technic, which is the *raison d'être* of the book, is inadequately presented and we miss some of the most important contributions made by others in this field.

The physiology, pathology and etiology of the various ailments listed are either so inadequately presented as to fail in explaining the modus operandi of the technic suggested, or else differ markedly from the generally accepted ideas.

The illustrations consist of photographs of only a few of the many kinds of electrodes now in use, diagrams of motor points for muscle testing, photographs of a young woman, which indifferently illustrate the technic and usually where illustrations are superfluous, also a series of good radiographs to accompany selected tabloid case-reports of intestinal stasis, which topic takes up one-quarter of the whole book, and finally some diagrammatic sketches, purporting to show how the author imagines the electro-litic currents flow in the human body between electrodes variously applied.

We cannot recommend the book to our readers.  
F. T. W.

#### Pincussen: Photobiology

**PHOTOBIOLOGIE: Grundlagen-Ergebnisse-Ausblicke.** Von Ludwig Pincussen, Dr. Med. et Phil., Direktor der Biolog.-Chemischen Abteilung am Städt. Krankenhaus am Urban zu Berlin. Mit 101 Abbildungen. Leipzig: Georg Thieme. 1930. Price M. 36—geb. M. 39.—

Professor Pincussen gives a very complete exposition of photobiology. The first part deals with the physics and chemistry of light and with the various sources. The second part covers the biologic effects in plant life and in all organic processes in the animal organism.

#### Brenzinger, Janitsky & Wihelmy: Physics and X-Ray Apparatus

**ALLGEMEINE GRUNDLAGEN. PHYSIK UND TECHNIK DES RÖNTGENVERFAHRENS.** Von Dipl.-Ing. M. Brenzinger, A. Janitzky und Dr. E. Wihelmy, Universitäts-Institut für physikalische Grundlagen der Medizin zu Frankfurt a. M. With An Introduction By Prof. Dr. F. Dessauer. Leipzig: Georg Thieme. Sold By B. Westermann Co., 13 West 46th Street, New York City. \$6.50.

This volume is the fourteenth in a series entitled "A Guide to Roentgen Practice." The only drawback to this work, which may not prove actually such to many of our readers, is the fact that it is in the original German.

The work is divided into three main sections. The first, by Wihelmy, considers with simplicity and scientific accuracy the physical laws governing the production of roentgen radiation; the

second, by Brenzinger, considers x-ray apparatus, their construction and various parts; the third, dealing with roentgen and other vacuum tubes, is by Janitzky.

The work is most pleasingly printed and bound and cannot be recommended too highly to the student reading German who desires to become a scholar in the fundamentals of roentgen-ray production.

F. T. W.

### Abbott: Physical Therapy for Nurses

**PHYSICAL THERAPY FOR NURSES.** By George Knapp Abbott, A.B., M.D., F.A.C.S., Surgeon to The Glendale Sanitarium and Hospital; Author of "Principles and Practice of Hydrotherapy for Students and Practitioners of Medicine" and others. Takoma Park, Washington, D. C.: Review and Herald Publishing Association. 1930. Price \$2.00.

This textbook for nurses is designed to give a classified, correlated and comparative view of the various physical therapy methods. The four main parts cover the essential principles of hydrotherapy and thermotherapy, massage and mechanotherapy, electro- and light therapy. The final section is devoted to therapeutic applications. Hydrotherapy is especially well presented.

It is not intended that the book should replace practical instruction, of which a certain amount must be acquired by experience before the concurrent descriptions of principles, as given here, are inculcated. The therapeutic part is, the author thinks, best deferred to the latter years of the nurse's instruction.

The information contained in this manual is practical and clearly expressed in simple language, by a man who knows the work thoroughly and practically. It should be very useful to nurses and technicians, as well as to their teachers, especially owing to the prominent position which physical therapeutics occupies in the present-day medical curriculum. Physicians who are beginners in this line of work will find the book decidedly helpful.

to the physical therapeutic practitioner for installation of apparatus.



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### Measuring of X-Ray Doses

A new and reliable method of measuring the exact quantity of x-rays administered at a dose has been developed by the Bureau of Standards, Washington, D. C.

By passing the beam of x-rays between two plates and measuring, with ultrasensitive meters, the very slight changes in resistance which result, an accurate indication of the intensity of the radiations is obtained.

### Electrosurgery

A section in electrosurgery was added to the American Academy of Physical Therapy in 1930.

### High-Frequency Room Heaters

The General Electric Company is suggesting the possible application of their high-power oscillating tube to the heating of rooms. At present this forms the source of their radiothermic or fever apparatus, which is now being so thoroughly advertised.

The basic idea is an old one. It was used by Northrup in his radio furnace for smelting and, long before that, by d'Arsonval in his "Grande Solenoid," with which he raised the temperature of individuals placed within it and modified toxins and venoms.

The method of producing high-frequency electro-magnetic fields for thermotherapeutic use by means of thermionic tubes is, however, directly traceable to the work of Hallberg, an electrical engineer.

### NEWS NOTES

#### The Thyatron

Among novelties in tubes, we now have what bids fair to revolutionize electrical practice in the "Thyatron," which receives ordinary direct current and delivers alternating current.

This invention will undoubtedly profoundly affect power transmission, the design of apparatus and treatments—just how much it is difficult to state now, but we may prognosticate a lessening of expense

# THE SEMINAR

CONDUCTED BY

MAX THOREK, M.D. (Surgery)

GEORGE B. LAKE, M.D. (Medicine, Economics and Ethics)

[Note: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later than the 1st of the month following the appearance of the problem.*

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

## PROBLEM NO. 12 (SURGICAL—1930)

SUBMITTED BY DR. F. W. PORTERFIELD,  
WATERLOO, IA.

(See CLINICAL MEDICINE AND SURGERY,  
Dec., 1930, p. 916)

**Recapitulation:** The patient was a married woman of 46 years, first seen May 24, 1930, complaining of pain across the back and abdomen, diarrhea, vomiting and loss of appetite, weight and strength.

**History:** Father died of cancer of the stomach at 59 years; mother died at 48, due to "change of life"; one sister died of tuberculosis of bones; eight siblings living and well.

Patient's sexual history normal; perfectly well until Jan., 1930, when she began to have pain above umbilicus, not affected by food or spinal movements, growing worse, always worse at night or when recumbent and not relieved by any medication tried. In March, 1930, 23 teeth were extracted (some were infected), after which she had diarrhea, preceded by abdominal pain. Lost 46 pounds in weight from January 1 to end of May. Has no appetite and her stomach retains only fruit juices.

Examination was essentially negative, except for blood pressure 100/40; slight increase in the percentage of lymphocytes

(29 percent); low gastric acidity (later, total achylia); traces of blood in the stools, on one or two occasions; and an indefinite, slightly-tender mass above the umbilicus, over the pancreas. The Wassermann reaction and x-ray study were also reported negative.

**Requirement:** Suggest tentative diagnosis and treatment.

DISCUSSION BY DR. M. O. ROBERTSON,  
BEDFORD, IND.

The pain in this case is not characteristic of any usual abdominal lesion and is probably due to the same cause as the mass discovered on examination.

Extraction of teeth was done, no doubt, expecting that the pain would thereby be relieved; but was merely followed by diarrhea, which may or may not be due to faulty mastication. It may bear a relation to the pain and its cause.

Nothing is said as to when nausea began. It may be due to acidosis from lack of nourishment or to the toxic condition of the patient. The same is true of the loss of weight.

Taking all the factors into consideration, I should expect to find a pancreatic cyst; or, if not that, a malignant tumor of the pancreas, which has not yet involved sufficient pancreatic substance to give glycosuria, fatty stools, etc.

An exploratory operation is in order, after proper measures have been used to stabilize, if possible, the patient's metabolism.

DISCUSSION BY DR. JAMES P. TYE,  
ALBANY, GA.

The first impression one would have after reading this problem would naturally

be that of malignant disease of the large intestine. The loss of weight; the loss of appetite; the diarrhea, followed by constipation; with the presence of a tumor palpated in the upper abdomen and presence of blood in the stools, are very suggestive of cancer.

After a second reading, we notice that the patient has been nauseated and unable to retain solid foods; that she suffers pain in the abdomen, especially while lying on her back; and that the x-ray findings are, grossly, negative.

With these findings, and not knowing the character of her pain, the consistency of the palpable tumor nor whether the tumor was moveable or not, I would be forced to make a diagnosis of a "surgical abdomen," with the following possibilities: (1) malignant tumor of the transverse colon; (2) malignant tumor of the omentum; (3) benign tumor of the omentum, such as omental cyst.

The treatment certainly calls for surgical interference, the exact nature of which would depend upon the lesions found. Even though the symptoms have existed a comparatively short time, the condition might prove to be inoperable; or it may be a simple removal of a large omental cyst.

#### SOLUTION BY DR. PORTERFIELD

It was finally decided that no diagnosis was possible without an exploratory operation and, because of the occasional presence of some fatty stools (which seemed to be controlled by the administration of pancreatin), we hoped to find a benign neoplasm of the pancreas, such as a pancreatic cyst.

The extreme weakness of the patient suggested the advisability of a resort to rectal feeding, in hope to build her up to an extent that the operation *per se* would not prove fatal; this was done for a week, during which time she seemed to improve somewhat.

**Operation:** A median incision was made above the umbilicus and the upper abdomen exposed; the mesentery was lifted and the stomach and pancreas palpated. There was no lesion in the pancreas, which was easily palpated and found in normal position and condition.

Imbedded in the center of the posterior wall of the stomach was the mass referred to; it was quite extensive, being about the size and shape of a medium-sized one-half

grape fruit; the gastric wall involved in the tumor was "doughy" and the location, size, shape and condition left no room for doubt that we were in the presence of a malignant tumor of the posterior stomach wall. It was too extensive for a gastrectomy, which, in our opinion, would have caused death from surgical shock immediately and was undoubtedly useless as a curative expedient. The relatives were thereupon informed that she had an inoperable tumor, and that a fatal result was inevitable.

She died on the fifth day after the operation and, in my opinion, the immediate cause of death was actual starvation. She really had had no nutrition for weeks, and the total loss of weight, from normal to that at death, was not less than 70 pounds.

The unusual features of this case, to me, were the rapidity of the development and course of the malady; the absence of filling defects in the x-ray films; the absence of positive findings on gastric analysis; the presence of a normal blood picture; and the symptoms suggestive of pancreatic disease.

I have submitted the case as an illustration of the difficulties occasionally encountered in making a positive diagnosis of gastric cancer; the rapidity with which it sometimes destroys life; and the location of the neoplasm in this case, which, I believe, is rare; also the signs of pancreatic disease which, in this case, were probably due to pressure of the neoplasm on the pancreas, as she invariably complained of marked discomfort when lying in the dorsal decubitus.

#### CLOSING DISCUSSION BY DR. MAX THOREK, CHICAGO

The case of Dr. Porterfield has many interesting aspects. The diagnosis of morbid conditions in the stomach, while often simple, is occasionally extremely difficult. Classical manifestations are not always present. In Dr. Porterfield's case, the condition mimicked malignant disease of the transverse colon, and also pancreatic disease. It would be wellnigh impossible to make a definite diagnosis in a case like the one under discussion, without resorting to surgical exploration. X-ray studies of the stomach are not infrequently misleading.

To cite an interesting object lesson in this connection, a member of our surgical staff observed a man in whom a definite diagnosis of gastric carcinoma was made.

A series of x-ray studies was apparently conclusive. The tremendous involvement depicted by the roentgenograms was so convincing, that, from the roentgenologic point of view, the condition was considered definitely inoperable. The patient was advised accordingly and permitted to choose the course he thought best. He decided in favor of operation, with a possible hope of some relief. But, lo and behold! the celiotomy disclosed, to the amazement of the surgeon and spectators, an absolutely normal stomach, without any involvement whatsoever. The patient is living to this very day, and thus far no definite diagnosis has been made as to what has caused the misleading roentgenographic image.

Conversely, as in the case of Dr. Porterfield, gastric analyses, roentgenographic studies and other clinical manifestations, apparently absolved the stomach from participating in the morbid process; yet, as will be seen from his final report, a malignant tumor was discovered on the posterior stomach wall.

The two conditions most commonly confounded in similar instances are: ulcer of the stomach or malignant neoformations.

While writing these lines, a man fifty years of age is being discharged from the hospital. He came under my observation with a diagnosis of malignant disease of the pylorus. Clinical and radiologic studies spoke for malignancy. This was the diagnosis of his physician, a very competent observer, and I concurred in this opinion. Operation was decided upon. Exploration disclosed that we were dealing with a large pyloric ulcer, that had perforated posteriorly and was surrounded by a large mass of inflammatory material. Resection was out of the question. The condition of the patient, the tremendous plastic peritonitis of the contiguous structures, rendered such procedure extremely dangerous. I performed a posterior, short-loop gastrojejunostomy with a large stoma. This was supplemented by a von Eiselsberg exclusion of the pylorus (not much used now, but a good expedient when indicated). The man made an uneventful recovery.

It must not be forgotten, of course, that ulceration of the stomach may undergo malignant degeneration, particularly in pyloric ulcer. It is well to point out, however, that a decade ago the great majority of the profession maintained the established

frequency of transformation of ulcer into cancer. The pendulum of opinion, in this respect, is rapidly swinging the other way; it is now generally conceded that ulcerations found in malignant conditions of the stomach are secondary in type, viz.—the carcinoma is the primary factor and ulcerative changes in the growth are secondary. It may be added that recent statistics show that ulcers, diagnosed clinically as such, become transformed into malignant tumors in not over two percent of cases.

A decade ago, we all believed that early intervention in cancer of the stomach was not strongly indicated. "What is the use," we argued, "the patient is doomed anyway". We think differently now. Our aim now is to diagnose carcinoma of the stomach at the earliest possible moment and proceed surgically to deal with the condition. This is much easier said than done, however. All of us who deal constantly with these patients will verify the statement, that early diagnosis of malignant gastric neoplasms is extremely difficult.

One should never be satisfied with a diagnosis of simple gastric derangement, in a person past middle life. If, for example, a patient, after years of comparatively good health, begins to show abnormal manifestations pointing to the stomach, always be on the lookout for a possible carcinoma. It is a sad but true story that many of our patients frequently come to us, stating that they have been treated by cultists, or even by some physicians, for some form of "indigestion" or for that much abused misnomer "auto-intoxication" and, to our chagrin, we find these individuals suffering from a far-advanced carcinoma. Some aid, possibly, could have been given these patients at the earlier period, which now, unfortunately, is impossible.

Thus we see that Dr. Porterfield was face to face with a condition which was not easy to diagnose, and which, at the time he saw the woman, was far advanced.

Tumors of the stomach must be differentiated from ulcers and from other forms of gastric disease; from abnormalities of the biliary tract; from tumors in the abdomen, other than in the stomach; from syphilis, pernicious anemia and other, rarer, conditions.

We note that neither Dr. Robertson, Dr. Tye nor Dr. Porterfield made a correct

diagnosis *ante mortem*. I believe that, under the circumstances, none of us could. The symptoms were extremely misleading.

Only too often do we find the cocksure diagnostician (he who never fails to make a diagnosis). Such individuals usually have neither surgical experience nor the fortitude to admit their mistakes. It is the "bluffer" who brings honorable medical men, who admit their inevitable shortcomings, into an unfavorable light with the public.

The lessons to be drawn from this very instructive case are:

1.—Differential diagnosis of gastric carcinoma is, in many cases, extremely difficult.

2.—The deprecator of exploratory laparotomy, as a means of making a diagnosis, still nurses erroneous notions and deprives many patients of the benefit of a timely and perhaps successful surgical intervention.

3.—Honest discussion, without subterfuge, of facts and opinions related to cases (as Dr. Porterfield did in this instance), is one of the most important stepping stones to surgical achievement.

**PROBLEM NO. 2, 1931 (SURGICAL)**  
SUBMITTED BY DR. MAX THOREK,  
CHICAGO

A school girl, 11 years of age, white, was admitted to the hospital with a working diagnosis of appendicitis.

At the time of admission all the classical manifestations of acute appendicitis, with possible rupture, were present (over 20,000 leukocytes, abdominal distension, diffuse abdominal rigidity, vomiting, etc.).

A history of two previous attacks was obtained.

The child was operated on a few hours after admission to the hospital.

Upon opening the abdomen, it was found filled with a greenish-yellow, purulent material. The appendix was found to be gangrenous and perforated in several places; its position was retrocecal. It was removed. The stump was cauterized with the electro-cautery. A wide margin of cecum was inverted to minimize the danger of fecal fistula. The retrocecal fossa, the cul-de-sac of Douglas and the space of Retzius were drained. During the operation the pulse rate was about 160.

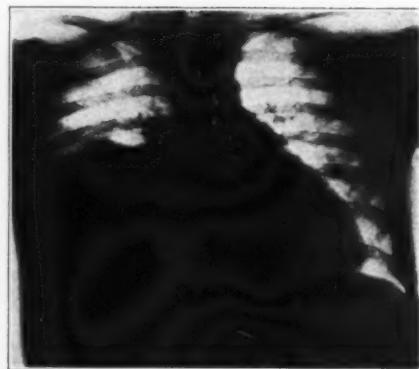


Fig. 1

The patient was returned to bed in fair condition and hypodermoclysis was given. The postoperative course for twenty-four hours was stormy. After that the tide turned and an uninterrupted and uneventful recovery ensued. The drains were removed at the end of the first week at which time the child was in excellent condition.

Three weeks after the operation, the leukocyte count suddenly mounted once more to around 20,000. The child lost her appetite and gradually began to appear ill again. Some rales were found in the right lower chest and dullness made its appearance, followed by flatness which, while limited at first, gradually extended to the fifth rib on the right side.

A roentgenogram was taken (see Fig. 1) and the report of the roentgenologist was as follows:

"In the lower right lung field there is a shadow density which extends upwards to the fifth interspace posteriorly, which is rather well demarcated and has displaced the heart somewhat to the left, and the outer border is less dense than the inner portion of the lung. The lung field above the shadow is apparently normal. There is possibly a little compression of the lung. The diaphragm dome on the right side cannot be demonstrated, due to the increase in density of the lung field in this area. The possibilities are: first, an encapsulated empyema; and, second, a lung abscess. The shadows do not have the characteristics of a lobar pneumonia, but that condition cannot be entirely ruled out."

**Requirement:** Confronted with this condition, what would you consider the probable diagnosis? and what remedy would you suggest?

# THE CLINIC

## ENDOCRINOLOGY

### Pituitary Tumors

By MAXIMILIAN KERN, M.D., Chicago

PATIENTS with frank endocrine disease rarely present themselves at a clinic.

Invariably one finds symptoms which suggest some every-day illness, which yields but slowly to the average form of medication. It is only after a careful search for the causative factors that one discovers that the underlying basis of the complaint is to be found in one of the glands of internal secretion. This is not always easy. It requires patient study on the part of the doctor and even more conscientious cooperation on the part of the patient.

*Case 1:* In 1924 a patient presented himself to me for treatment, complaining of severe headaches, which dated back a number of years, eye strain and double vision. He had been treated for some time by his family physician, who diagnosed the condition as "stomach trouble," and there was very little improvement, so far as his headaches were concerned, after prolonged treatment. Upon examination of the patient the following findings were observed:

*General Observation:* Upon examination of the mentality of the patient, it was found that he lacked judgment, showed signs of mental deterioration, his thoughts seemed incoherent and he could not concentrate to any great degree. He failed to appreciate the value of things and considered everything more of a joke than a reality.

*Physical Examination:* On examination of the head, it was found that there was a protuberance over the occiput—a definite irregularity of the skull, characterized by a transverse depression, limited by a

pronounced elevation and also by a lower protrusion. There was also an area of sensitiveness over the right parietal and occipital regions.

On examination of the cranial nerves, the pupils were found to be equal, somewhat dilated, round and reacting promptly to light and accommodation. The extrinsic eye muscles moved the eyeballs normally in all directions. Objective sensation to pain and touch was equal on both sides of the face and forehead. The corneal reflexes were present bilaterally, although less marked on the left than on the right. The left side of the face presented a partial mask appearance, the left angle of the mouth being lower than the right, and the upper eyelid on that side having a tendency to lag. Tongue movements were normal in all directions.

The reflexes of the patellar tendon and of the Achilles tendon were markedly increased, while those of the biceps and triceps were practically normal. The Babinski and other pathologic reflexes were absent. Objective skin and deep sensations were normal all over the body.

*Otolaryngologic Examination:* The patient hears all the tuning forks and the highest tones of the Galton whistle. Bone conduction is less than air conduction in both ears. The Webber test is indefinite. There is no spontaneous nystagmus of either the first, second or third degree (indicating that nystagmus is not elicited by turning the eye in any degree to either side).

He has an incomplete, slight paralysis of the left side of the face. There is no spontaneous past-pointing on either side, using both full-arm and forearm. There is no Romberg nor reinforced Romberg sign and no deviation in the gait on being blindfolded.

Caloric stimulation of the right ear, with water at 68°F., brought a prompt response, producing a definite, rhythmic nystagmus to the left. Stimulation of the left ear, with water at 68°F., produced a prompt response, nystagmus being toward the right side.

It would appear that the cochlear portion of the eighth nerve, together with the end organ, the cochlea, is normal. The vestibular portion of the eighth nerve, with the end organ, the labyrinth, is also normal. There is no evidence that any portion of the auditory apparatus or of the vestibular apparatus, after it enters the brain stem, is involved, nor that there is any sign of a tumor of the cerebellum, medulla or pons.

*Ophthalmologic Examination:* The eye was examined and found to be negative externally. Muscular movements were normal; cornea and iris were clear; the anterior chambers were of normal depth; the pupils were equal and reacted to light and accommodation.

Ophthalmoscopic examination revealed a large oval disc, with indistinct margin but no swelling. The temporal one-third of the optic disc was pale and surrounded by a white crescent—apparently a myopic crescent. Arteries and veins were normal, with the exception of the superior and inferior retinal veins, which were slightly dilated and tortuous. Fields of vision were normal as to form and color, so far as could be determined. Retinoscopy revealed compound myopic astigmatism.

*Roentgenologic Examination:* An old fracture was revealed on roentgenologic examination, in the area just below the occipital tuberosity of the skull. The lower fragment is displaced inward, and the resultant space is filled in with a callous formation which takes the outline of the normal tables, leaving a dense, fibrous structure, the old tables and the resulting callous formation contained within the cavity of the skull.

In the region of the sella turcica is found conclusive evidence of pathologic changes. The anterior clinoid process shows con-

siderable hypertrophy, and the posterior process is almost obliterated. There is evidence of bony infiltration in the region of the sella.

*Laboratory Reports:* The blood was essentially normal, chemically and cytologically; Wassermann and Kahn tests, negative. The urine was alkaline and showed a trace of albumin and indican; otherwise normal.

*Diagnosis:* Glioma of the pituitary.

*Remarks:* This patient was operated upon in one of the leading clinics of the country and the above diagnosis was confirmed.

While this patient complained, primarily, of headache, and the condition had been variously diagnosed as stomach trouble, goitre and faulty refraction, no attempt was made to get at the cause of the actual condition and, therefore, no diagnosis was made. It is my personal experience that any number of cases that are treated symptomatically could be diagnosed, if a proper effort were made to get at the bottom of the condition.

The treatment for a condition of this sort should be directed toward x-ray therapy, and this treatment should be carried out by one who possesses expert knowledge of the application of roentgen rays for this purpose. The mere knowledge of roentgenology as a diagnostic measure does not suffice. Only after x-ray therapy has been resorted to without success should surgery be used; and surgery of this sort cannot be done by an amateur, or even by the average general surgeon, but should be done by a man of wide experience in this particular field of brain surgery, of whom we have, unfortunately, only a few in this country.

*Case 2:* This patient, a woman aged 57, presented herself to an otolaryngologist, complaining of terrific headaches, since puberty. She thinks that her headaches are less severe when she is sojourning in the mountains. She is also troubled with post-nasal dripping and nausea, cannot tolerate sweets and complains of polyuria during her attacks of headache.

*Examination of the nose* reveals the following: On the right side there is a fairly straight septum, excepting the middle third; no free pus and no polypi; turbinates seem to be about normal in size and color. On the left side there seems to be a corre-

sponding concavity, a somewhat irregular septum and a pale mucosa. Her sinuses were negative on transillumination. Examination of her ears showed a slight retraction of the right drum, with a normal canal. The left side showed a fairly good light reflex, slight retraction of the drum and a normal canal, although the patient claims to be completely deaf in the left ear.

General physical examination reveals nothing unusual, and no blood-sugar reports are available. An x-ray report shows cloudiness involving the central portion of the right frontals; small, clear ethmoids; and cloudiness of the right maxillary sinus. The picture of the sella turcica shows an exostosis, forming a complete bridge between the anterior and the posterior clinoid processes.

#### *Diagnosis: Pituitary tumor.*

**Remarks:** While the data furnished in this case are somewhat incomplete, it is of interest to note that this patient has been suffering from marked headaches since puberty. She complained of an intolerance for sugars, frequent nausea, and polyuria. She had been treated at various times for "nervousness" and digestive disturbances;

and, were it not for the fact that the otolaryngologist to whom she was referred was of the highest type in his specialty, she undoubtedly would have had her tonsils removed, her sinuses washed and her septum straightened. The thoroughness of the otolaryngologist in seeking out the causative factors underlying the symptoms of this patient made it possible to arrive at a diagnosis, which should have been accomplished many years ago.

These two cases are presented chiefly because the main complaints are similar to those which every doctor in general practice comes in contact with, from time to time. Unless the family physician can stress the point, that symptoms of this character must have a cause, and frankly admits that this cause must be looked for, a diagnosis is well nigh impossible.

Diseases of the endocrine system are a reality. They exist and are not the fiction of the "gland doctor." They may not be so frequent as acute respiratory diseases, nor so definite as acute abdominal conditions, but every physician ought to be able to recognize them, and thereby frequently be of great help to the patient.

55 E. Washington St.

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## CANCER AND THE ENDOCRINES

*Every embryo is a seething mass of mixed cancer which, as it develops, differentiates into adult cells to form a benign completion.*

*Cancer starts as a simple tumor, more benign than the early embryonic structure, but unable to mature into adult cells.*

*The embryo has its seat in a young host, in which altered and hyperactive glandular secretions are manifested. Cancer has its seat in an aged host, with altered, hypoactive glands, which are not sufficiently activated to alter the embryonic nature of the growth.—DR. H. H. SCHWARTZ, Seattle, in Northwest Med., Mar., 1930.*

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## SLEEP

*Now blessings light on him that first invented this same sleep! it covers a man all over, thoughts and all, like a cloak; it is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot. It is the current coin that purchases all the pleasures of the world cheap; and the balance that sets the king and the shepherd, the fool and the wise man, even.—CERVANTES, in "Don Quixote."*

# CLINICAL NOTES AND PRACTICAL SUGGESTIONS

## Colloidal Metals in Pneumonia (A Report of Cases)

**I**N THE management of pneumonia, which still stands second on the list of causes of death, the general practitioner needs all the help he can obtain, and my recent experiences with the use of colloidal mercury-copper sulpharsenite (**Armervenol**), in five cases of this disease, are such that I feel that the information should be passed on to others.

One of the advantages of Armervenol, from the standpoint of both the patient and the physician, is that it is effective when given by mouth, as is shown by the histories of the five cases I have treated in this manner.

### CASE REPORTS

**Case 1:** Male; age 7 years; first seen on September 24, 1930, at 3:30 P. M.

Examination showed consolidation of the entire left lung and the upper and middle lobes of the right lung; temperature, 103.6°F.

**Treatment:** I ordered Armervenol, 5 drops, in one-third glass of milk, every three hours, with fluid extract of ipecac,  $\frac{1}{4}$  minim, and tincture of lobelia, 2 minim, every two hours.

**Progress:** On Sept. 25, at 3:00 P. M., the temperature was 103°F. The dose of Armervenol was increased to 8 drops every three hours.

On Sept. 26, at 3:00 P. M., the patient was decidedly improved; temperature 102°F. The dose of Armervenol was again increased, to 10 drops every three hours.

On Sept. 27, at 4:00 P. M., the temperature was 99°F., and the boy wanted to get out of bed.

The 10-drop doses of Armervenol were given three times a day until Sept. 30, when the patient was discharged as cured.

**Case 2:** Male, age 8 years, of low vitality, having had an attack of scarlatina in April, 1930, and not a promising case; first seen Nov. 11, 1930, at 11:00 A. M.

Examination showed consolidation of the upper lobes of both lungs; temperature, 104°F.

**Treatment** as in Case 1.

**Progress:** On Nov. 12, at 4:00 P. M., the temperature was 103.2°F. The dose of Armervenol was increased to 8 drops every three hours.

On Nov. 13, the temperature was 102° and the patient was improving satisfactorily. The dose of Armervenol was increased to 10 drops every 3 hours.

On Nov. 14, the temperature was 100.2° and on the 15th it was normal. Armervenol was continued, 10 drops three times a day, until Nov. 18, when the patient was discharged.

**Case 3:** Female, age 9 years; first seen Nov. 14, 1930, with consolidation of the lower lobe, left lung, and temperature 103.2°F.

**Treatment** was the same as in the earlier cases, except that the dose of Armervenol was started at 8 drops, increased the next day to 10 drops, every three hours, and small doses of digitalis were substituted for the ipecac.

**Progress:** On Nov. 15, the temperature was 102.4°; on the 16th, 100.2°; and on the 17th, normal. The patient's progress was continuous and rapid and she was discharged Nov. 20.

**Case 4:** Female; age 62 years; obese (weight 180 pounds); first seen Dec. 12, 1930.

**Examination:** The lower lobe of the left lung was consolidated; the patient was coughing severely; pulse, rapid and "thin"; temperature, 103.2°F.

**Treatment:** I ordered 15 drops of Armervenol every three hours, with the tinctures of digitalis and lobelia in appropriate doses.

**Progress:** On Dec. 13, the patient reported a restless night, was coughing severely and the sputum was streaked with blood; temperature 102.4°. The dose of Armervenol was increased to 20 drops every three hours, in milk.

On Dec. 14, the patient felt better; the coughing was less, though there was still some blood in the sputum; temperature 101°. On the 15th the progress continued and the temperature fell to 100°F. On the 16th there was no fever.

The Armervenol was continued, 20 drops three times a day, until Dec. 19, when the patient was discharged.

**Case 5:** Male, age 15 months; first seen Dec. 24, 1930, at 4:00 P. M.

**E**xamination showed rather generalized broncho-pneumonia; pulse and respiration very rapid; temperature 103° F. I gave a poor prognosis, but prescribed 5 drops of Armervenol, in a little milk, every two hours, with small doses of the tinctures of digitalis and lobelia.

At 6:30 P. M. on that day the parents thought that the baby was dying, but after the third dose of Armervenol he rallied and made so excellent a recovery that he was playing on Dec. 28.

In none of these cases was the drug given by injection. It is not unpleasant to take by mouth, but I think it is best given in a little milk, unless the patient has an idiosyncrasy against that menstruum.

So far, I have found no drug which acts so promptly and so satisfactorily in cases of pneumonia as does Armervenol, and I shall use it henceforth with much confidence.

H. P. KLEIN, M.D.

Fort Branch, Ind.

#### Alpha-Lobelin in Carbon Monoxide Poisoning

In these winter days, when carbon monoxide poisoning reaches its height, it is well to remember that the sooner something is done for these patients, the more likely they are to live.

As a first-aid emergency remedy, a hypodermic injection of alpha-lobeline may turn the balance in the patient's favor. It might be well to carry a few ampules in one's emergency kit rather regularly.

Other treatment will probably be needed as soon as it can be procured, but it is well to be prepared to do something without waiting.

GEO. B. LAKE, M.D.

Chicago.

#### "LET'S MAKE DIPHTHERIA A DISGRACE."

#### Dentists Practicing Medicine\*

**W**HAT is the matter with our dental profession? We don't want to be considered as a branch of the medical profession, and yet we arrogate to ourselves the privilege of telling our patients what and what not to eat.

Just like a lot of old women discussing the way of treating a cold, each one has a fine recipe to keep the other well. Slap-

stick judgment! The dental profession, in its relation to the matter of diet, seems to be getting bolder and bolder.

Big space is given to papers and talks about diet at our meetings and much more time is consumed ranting about it in the office.

Why do we do this? Where do we get the right to prescribe a diet for a patient? How do we know what they should or what they should not eat? Have we made the proper physical examinations and blood tests? And if we have, how do we know what to prescribe? Have we a medical diploma or a state license to practice medicine?

How can we expect closer cooperation between the medical and dental professions when we infringe on their privileges? We object to the assumption of dental services by the laboratory man and the dental hygienist. Our code of ethics compels a man who has evolved an important process to step aside from active practice, if he wishes to sell his product. Yet, we brazenly take upon ourselves the privilege of prescribing diets for our patients when we are not called upon to do so.

Send them to a physician!

JOHN H. HOSPERS, D.D.S.  
Chicago, Ill.

#### Psychiatric Nursing

**I**N CONTRAST to the widespread unemployment in general nursing, there continues to be a shortage of psychiatric nurses for private, institutional and public health work. Provision of adequate personnel is recognized as essential to the ultimate solution of the problem of mental disease, recently characterized by the American Medical Association as "a major problem confronting medicine today."

I call these facts to the readers' attention in the hope they may help in giving constructive advice to those young women who, at times, call upon members of the medical profession for information regarding the opportunity for a career in nursing, and the best schools for acquiring the necessary instruction. In view of the unemployment among general nurses, and because of its many ramifications, psychiatric nursing, of all branches of nursing, today offers the outstanding opportunity for a socially constructive and remunerative career.

\* Reprinted from *Bul. Chicago Dent. Soc.*, Dec. 4, 1930.

The School of Nursing maintained by Bloomingdale Hospital, White Plains, N. Y., specializes in psychiatric care and treatment, but the scope of the course, through affiliation with the New York Hospital, is such as to enable graduates to approach the problems of disease from both the physical and psychologic angles.

MORTIMER W. RAYNOR, M.D.  
White Plains, N. Y.

SEND FOR THE 1930 INDEX TODAY.

A Failure in Contraception  
(STEM PESSARY IN THE UTERUS)

ON JULY 4, 1930, I was called to attend an obstetric case. The patient was a multipara of 38 years.

On examination I found the os uteri fully dilated and the patient well advanced in labor, and I presently delivered a normal infant, without undue difficulty and with no complications, either at the time or later.

When the placenta was delivered and I examined it, I found, imbedded in its maternal surface, a hard-rubber stem pessary, of the exact size and shape shown in Fig. 1.



Fig. 1

Upon questioning the patient, she stated that it was inserted more than a year previously, for contraceptive purposes, and that when she became pregnant she believed that she must have lost it.

How did this stem pessary get into the uterus without causing pain or interrupting the pregnancy?

SOLON J. LEVINE, M.D.  
Grover, Colo.

[The things women will do to prevent conception, and the insults which the organs of the female pelvis will endure without untoward results are a surprise to those who lack wide experience of such matters. We remember a woman who used a pint beer-bottle, inserted into the vagina bottom upward, to retain a prolapsed uterus in position.

The various cervical pessaries and dilators, widely used for contraceptive purposes, possess many dangerous features, but we have never heard of a case like this. The presence of a foreign body in the cavity of the uterus is supposed to prevent conception very effectively.

It is to be hoped that a knowledge of the methods worked out by the American Birth Control League, which are harmless and, in intelligent hands, 100 percent efficient, may be rapidly gained by all physicians, so that these bungling and unreliable makeshifts may no longer be necessary.—Ed.]

Löwenstein's Ointment for Active Immunization Against Diphtheria\*

IN 1928 Prof. Löwenstein produced an ointment containing diphtheria toxin, modified by the addition of formaldehyde and dead diphtheria bacilli. The ointment thus differed from the toxoid, not only in its consistency, but also in the fact that it contained dead diphtheria bacilli. Prof. Löwenstein believes that a true diphtheria immunization must be anti-bacillary as well as anti-toxic. He rubbed this ointment into the skin of a number of guinea pigs, and later gave them large lethal doses of diphtheria toxin. While the control animals all died, those protected by the ointment all remained alive.

One of his co-workers, Löwy, then used this ointment on 176 children, and in 1929 reported that 68 percent of these children became Schick-negative. Baer and Grabenhofer, in the same year, reported that, out of 110 children who received three inunctions, 56.8 percent became Schick-negative within less than six weeks, and 71.5 percent within four months after the last inunction.

Except for the appearance of a few temporary papules which quickly disappeared, in only four children, they observed no rise in temperature and no general reactions whatsoever. In a recent letter, Prof. Löwenstein informed us that, during the last two years, the various hospitals of Vienna used this ointment in over 6,000 children and that not a single one of these children developed diphtheria.

Encouraged by these reports we decided to try out this ointment on 47 children at one of the infant welfare stations of the

\*From *Bul. Chicago Med. Soc.*, Dec. 6, 1930.

city of Chicago, and we are briefly reporting the results obtained. The Schick test was performed on each child before the inunctions were given and six weeks after the last inunction.

Our technic of application was as follows: The skin of the posterior portion of the chest was thoroughly cleansed with alcohol and dried with ether. The contents of the tube were then rubbed into the skin for from two to three minutes. The ointment was then allowed to dry for another five minutes, and the mother was told not to bathe the child for twenty-four hours.

Of the children who had received three inunctions, 26 (55.3 percent) became Schick negative, we observed no general or local reactions and the mothers failed to report any rise of temperature or indisposition on the part of the children.

The evident advantage of this method of immunization lies in its simple technic, absolute painlessness and lack of sensitizing the patient to future antitoxin injections. Still another advantage lies in its anti-bacillary properties. It is well known that a negative Schick test is not an absolute indication of an immunity to diphtheria. Prof. Löwenstein believes that to produce a true immunity one must give the patient, not only an antitoxic agent (toxin-antitoxin, or toxoid), but also an anti-bacillary compound. If this is true, Prof. Löwenstein's ointment, containing the toxoid as well as the dead diphtheria bacilli, adds another important factor in our attempts to actively immunize the populace against diphtheria.

Of course, it must be remembered that our results were obtained six weeks after the last inunction and that Baer and Löwy obtained about 70 percent of Schick-negative cases within four months after the last inunction. It would thus appear that the average results obtained by the use of toxin-antitoxin mixtures are about the same as those obtained by the use of Prof. Löwenstein's ointment. However, the number of Schick-negative children is considerably less than the number obtained by the use of toxoid.

If future work fails to show a larger number of children, who had been treated with Prof. Löwenstein's ointment, with Schick-negative reactions, this method, the safest and most agreeable yet devised, would

appear to be inferior to the use of the toxoid.

We are not advising immediate adoption of this method. What we want to bring out is that there is a new method for active immunization against diphtheria. All those who have been doing active immunization know that a toxoid is superior to toxin-antitoxin and gives a large number of negative Schick tests. Besides containing the toxoid, the ointment also contains dead diphtheria bacilli.

Why does Professor Löwenstein think that one should have an anti-bacillary agent? We all know there are certain diphtheria carriers who never develop diphtheria. In some cases of diphtheria carriers, if you study the antitoxin blood counts, you will find that they do not contain any antitoxin and at the same time they do not develop any clinical manifestations of diphtheria. He says this is due to the anti-bacillary agent and to the dead diphtheria bacilli. We know that the Schick test does not mean the patient will not develop diphtheria.

One must realize that this does not sensitize against horse serum. It does not contain horse serum; it is a toxoid, which is another advantage which the ointment has over toxin-antitoxin.

ARNOLD H. KEGEL, M.D.,  
Health Commissioner.

Chicago.

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#### "LET'S MAKE DIPHTHERIA A DISGRACE."

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#### Cancer of the Stomach

**W**E ARE rapidly learning that the danger of cancer of the stomach is still greater than that of any other internal cancer that is accessible and curable by operation. This is due to the fact that indigestion, or any type of discomfort in the region of the upper abdomen where the stomach is situated, is so common in all adult ages, that the majority of people pay no attention to the lesser types which get well of themselves, or other forms which are not dangerous and may go on for years. For this reason, as cancer, in the beginning, has the same symptoms as many other conditions which are not cancer, there is usually delay.

In 1915, the majority of the clinics of the world found that ninety percent of

their patients suffering with cancer of the stomach were in the hopeless stage when they came to the clinic. Some clinics, today, report that this has been reduced, through education, to fifty percent or less.

The first thing, then, for an adult to learn is that cancer of the stomach has no signs or symptoms, in the beginning, different from conditions within the abdomen that are not cancer, whether they will ultimately become cancer or not.

The next fact the people must be made aware of is that an x-ray examination, with fluoroscope or film, will detect cancer in the early stages, or benign conditions of the stomach that precede cancer. Therefore, if all of us, when we experience indigestion, will think first of examination with the x-rays, this will be a great protection.

When more people learn the rules of health and attempt, in every way, through hygienic measures, care in food and drink, exercise and work, and through periodic examinations, to take care of their bodies, so many causes of indigestion will be eliminated that, when a grown-up experiences any unusual sensations in the upper abdomen, he will be more inclined to, and less fearful of, an immediate x-ray study.

The world should not forget Billroth, of Vienna, who conceived and executed the first operation for the removal of a large section of the stomach containing cancer. This operation has been perfected and, since 1900, most of the elements of the danger of the operation have been removed. Our failures to cure are largely due to our failures to properly inform the public and to gain their confidence. Remember, a great physiologist remarked that the human being had too much of every organ, *except the brain*. Removal of a large portion of the stomach does not interfere with its function.

JOSEPH COLT BLOODGOOD, M.D.  
Baltimore, Md.

#### Sixty-Five Cases of Recoveries From Leprosy

DURING the past ten years, 65 lepers have been discharged from the National Leprosarium which is conducted by the Public Health Service at Carville, La., where more than 300 lepers, men, women and children, are under treatment, as apparently recovered from leprosy and no longer a menace to the public health.

The average period of hospital care varied from 5 to 9 years. The shortest period of treatment was 1½ years and the longest was 17 years. Fifty-five (55) of these patients received crude chaulmoogra oil by mouth, and 16 of this group received no other medicine. Twelve (12) received benzocaine-chaulmoogra oil by intramuscular injection, and 4 of these received no other medical treatment. Twenty-one (21) received the ethyl esters of chaulmoogra oil by intramuscular injection, and 8 of these received no other medicine.

The basic treatment of leprosy is similar to that for tuberculosis, and all lepers at the National Leprosarium, no matter what medicines are given, follow a sanatorium regimen of food, fresh air and rest, almost identical with that prevailing in a tuberculosis hospital.

U. S. PUBLIC HEALTH SERVICE.  
Washington, D. C.

#### Sluggish Circulation

A LARGE number of men and women endure much discomfort, and even pain, because of sluggish circulation of the blood. These chilly subjects dread cold weather and those who have the means and the leisure migrate annually to a warmer climate at the approach of winter. Sufferers from a poor circulation are often thin, anemic and nervous. When their employment is sedentary, the risks of discomfort from cold are increased, and they live an indoor existence in rooms that are usually overheated and close. They cannot keep their hands and feet warm, and they are very liable to chilblains. Cold has a depressing, almost paralysing, effect upon the victims of low blood pressure, depriving them of energy and reducing vitality. They are frequently "blue with the cold", both mentally and physically. A diminution of bodily heat is a symptom of disease.

There are various means for improving a defective circulation and increasing the warmth of the body, and one of the best is vigorous and regular exercise of the muscles. If the opportunity for physical exercise is limited, the chilly person must pay intelligent attention to diet and care of the skin by bathing and friction. Cold tubbing in winter benefits only the robust. People with a poor skin reaction should bathe in warm water.

Most people who feel the cold acutely are undernourished. They may have a fairly good appetite and a plentiful table, but the dietary is lacking in the elements that produce potential energy in the form of heat. Some of the tissue-making foods are deficient as producers of heat and work. For warmth we require fats, grain foods and sugar. Oatmeal porridge, with sugar and cream supplies a heat-yielding food, and should be eaten daily by persons susceptible to chilliness. Bacon is invaluable. Cold people should avoid tea, and drink cocoa, with plenty of milk, for breakfast. Any of the preparations of maize provide a fair amount of heat and energy. Poached eggs on toast, sardines, kippered herrings, puddings containing suet, sugary fruits, lentils, cream, junket, cheese and the fat of meat are heat-yielding foods. The best drink for the chilly is undoubtedly milk. Sugar is practically indispensable as an article of diet for cold-blooded people, as it has a rapid action in producing heat and is, to a certain extent, a substitute for "sparer" of fat.

Alcohol is somewhat over-rated as a producer of warmth, but it has a certain fuel value. The brief skin flushing resulting from a glass of whisky and water is followed by a lowering of the body temperature. For this reason, and as the result of long observation, it is considered injudicious to rely upon alcoholic drinks for "keeping out the cold". Wine or spirits may prove restorative in the case of exposure to cold, but they should be taken after, and not before, such exposure.

B. SHERWOOD-DUNN, M.D.

Nice, France.

#### The Nickel Sulphate Test

**A** NEW application has been found for the nickel sulphate test devised by me and described in *CLINICAL MEDICINE AND SURGERY*, May, 1929. It is found to be useful in determining the decomposition of urea into ammonium carbonate, going on in urinary retention, especially noticed when there is residual urine, as in the case of prostatitis.

In such cases the volume percentage of precipitated ammonium carbonate by the Purdy centrifugal method may be very high—10 to 25 percent—in foul bladders. Both increase and decrease are clearly shown in percentage figures, so that the case records will evidence improvement or the contrary.

The technic is as follows: The Purdy percentage tube is filled to the 10 cc. mark with filtered urine and the nickel sulphate (20-percent aqueous solution) is added to the mark 15 cc.

The tubes are placed in the centrifuge and rotated for about three minutes at a speed of about 1500 revolutions per minute. Any time and any speed can be employed, so long as the operator uses the same time and speed in all cases.

When the urine is acid, there is little or no precipitate; but when it is alkaline, the bulky precipitate is seen to represent from 2 percent volume up to 20 or 30 percent, in extreme cases. Stinking ammoniacal urines show the highest percentages.

CLIFFORD MITCHELL, M.D.  
Chicago.

#### Maternal Mortality in the United States

**T**HE statement that the maternal mortality rate is higher in the United States than in fifteen other leading nations has been challenged. It has never been proved and it cannot ever be proved that some greatest common denominator of census taking is known whereby statistics submitted for comparison have all been secured, arranged, classified and computed by the same yardstick or rule of thumb.

At present there is a complete lack of uniformity in the method of gathering maternal mortality statistics, or any other statistics. Naturally, then, death rates in different countries cannot be compared with the slightest degree of accuracy. If the truth were known, probably there would be shown a more favorable maternity death rate in the United States than in any other country.—Editorial in *Pediatric Bull.*, N.Y., Oct., 1930.

#### FAITH

Faith cannot be bought nor quickly obtained when in trouble, like medicine. Faith must be acquired slowly, before it is needed, like education. Faith comes through devotion, right living and service to others.

—ROGER W. BABSON.

# THE LEISURE HOUR

## Assorted Misinformation

A friend of ours knows a lady who believes that a surgeon is a large fish and a general practitioner is one who practices to become a general. She thinks homeopaths are best for they are the trails that lead to home. She believes mastoids to be huge dogs; and a tonsorial parlor takes out your tonsils. He told her that he had suffered from pneumonia and she said that suffering always followed leaving the bottle uncorked and he was a fool not to know that pneumonia fumes were dangerous. (That's how she happened to know). She believes a minor operation is confined to children's hospitals and that anesthetic describes a form of dancing and an interne is a base-ball pitcher's curve. Well, there ought to be a law against her.—*American Stories.*

## The Versatile Drug Store

The only articles not now sold in drug stores are: Automobiles, coffins, coal and wood, fish, fur, harness and saddles, fodder, ice, iron and steel, live stock, lumber, meat and plumbing fixtures.—Report of a Government Survey, in *Lit. Digest*.

## Beats Einstein

A Lebanon man says he worried a good deal over making out his income-tax return, until he finally hit upon a simple formula, which he now offers free of charge to any who may be perplexed in the future.

He listed as dependents; one blonde wife, a sedan car, three goldfish, and two children. He then multiplied his grandfather's age by six and seven-eights, subtracting his telephone number. Next he added the size of his hat and subtracted the number of his car. After these preliminaries, the rest was easy.

Deducting \$1,000 for keeping his wife a blonde for the whole year, he divided

the remainder by the number of lodges he belonged to, multiplied by the number of electric lights in the house and divided by the size of his collar.

This gave his gross income, which, after dividing by his chest measurement and subtracting his blood-pressure, gave the net amount owed to the Government.—Lebanon (N. H.) paper, via *Lit. Digest*.

## R. S. V. P.

Why give parties, willy-nilly?  
Must I sit beside some silly,

Undeveloped, callow flapper  
And amuse instead of slap her?  
Must I eat a wicked, wasteful,  
Indigestible, distasteful

Meal, and drink a dozen glasses  
With a dozen other asses?

"Awfully kind of you . . . delighted . . .  
Thanks . . . so nice to be invited!"

—WILFRED J. FUNK, in  
*N. Y. Herald Tribune*

## It's A Way of Speaking

Young dentist learnedly discussing a play based on Freud's *Oedipus complex*

"It was a remarkable play, based, you know, on the epididymus complex."

J.A.M.A.

## My Paw

My Paw, he sez to me:  
"Young feller,  
When a lady tells you an idea  
She's somehow got,  
Which you don't mebbe agree,  
And you think you'll tell her  
Just where she's wrong, so she can  
see,—  
Better not."

B. H.

# Diagnostic Pointers

## Colds

There are two kinds of colds. One follows exposure or may, in fact, be brought on by anything that temporarily lowers the resistance of the nasal and pharyngeal mucous membranes and is probably caused by the normal bacterial flora of these parts. These colds are usually quite amenable to treatment, rarely lasting over a day or two. Individual resistance seems to vary a good deal and their frequency is, of course, greatly increased by the presence of nasal pathology. The second type is, without doubt, a truly contagious disease. The history of successive cases in a family or a community and the frequent epidemics that occur during our winter season leave little room to doubt this fact.—DR. JAS. W. DIMON, Utica, in *New York St. J. Med.*, Feb. 15, 1930.

## Essential Hypertension

In order that a person may be said to have essential hypertension, the pressure should be found elevated at all times for years, without any cardiac enlargement or evidence of the slightest disorder of renal function in any respect; the person should be quite free from disease under the most searching and critical clinical examination.

We, undoubtedly, encounter people with high blood pressure in whom we are unable to find a reasonable or adequate cause. If, however, some of these individuals are observed long enough or come to autopsy, an explanation is forthcoming. In spite of clinical renal efficiency, arteriolar fibrosis may be found in sections of the kidney and other organs.—DR. A. A. JONES, Buffalo, in *New York St. J. Med.*, Feb. 15, 1930.

## The Menopause and High Blood Pressure

The menopause is a factor which is frequently associated with high blood pres-

sure. In the writer's experience, the systolic pressures have been found high, with the diastolic but slightly elevated, in a large proportion of menopause high-pressure cases. Probably this nervous type of elevated tension depends upon endocrine imbalance and the cessation of the monthly loss of blood.—DR. A. A. JONES, Buffalo, in *New York St. J. Med.*, Feb. 15, 1930.

## Acute Laryngeal Obstruction

In the case of a child with symptoms of laryngeal obstruction, there is a sort of optimism that tends to make one desirous of avoiding manipulations which will, temporarily at least, tend to upset the patient. Nevertheless, if one is at any time definitely convinced that there is a gradual failure in improvement in the general condition, there should be no hesitation.

With action as the deciding factor, direct laryngoscopy is the procedure of choice. The direct observation of the larynx yields so much more information than does the palpatting finger, that intubation at this stage is a premature procedure.

In my experience there is no method which so allows one to size up the situation, to make a more accurate diagnosis, or in some instances to carry out the most logical form of therapy, as the exposure of the larynx to direct vision.—DR. L. G. RICHARDS, Boston, in *J.A.M.A.*, Sept. 13, 1930.

## The Verumontanum and Genito-urinary Disorders

Verumontanitis is only rarely thought of as responsible for sexual and urinary disorders.

An indirect-vision, lens instrument, with convex sheath, under water distention, is the best method of viewing the verumontanum. Local anesthesia, by the injection of an ounce of one-half percent solution

of cocaine, held in the urethra and bladder for 20 minutes, should be employed during urethroscopy. The best method of treatment for all pathologic conditions of the verumontanum is high frequency cauterization by means of surgical diathermy, using the d'Arsonval bipolar current.—DR. H. W. E. WALther, New Orleans, in *Urol. & Cutan. Rev.*, June, 1930.

### Libido in Women Following Sterilization

An investigation of women sterilized under the California eugenic sterilization law, as well as study of the literature of the subject, leads to the conclusion that bilateral salpingectomy appears to produce, of itself, no effect whatever on the patient's sexual life.

Psychologic effects of sterilization, in cases where pregnancy was previously feared, and the correction of pathologic conditions, led about one-third of the sterilized patients to report that their sexual life is improved after operation. Removal of the ovaries produces more frequent changes in the libido, yet even this, in healthy and vigorous women, often results in no alteration of sexual desire or response.

—DRS. J. VRUWINK and P. POPENOE, Los Angeles, in *Am. J. Obstet. & Gynec.*, Jan., 1930.

### Teeth and Toes

A case in which symptoms, apparently those of a beginning Raynaud's disease—thromboangiitis obliterans—disappeared following the extraction of infected teeth, suggests a connection between this disease and focal infection.—DR. P. K. JENKINS, Miami, Fla., in *M. J. & Record*, Apr. 2, 1930.

### Air Swallowing

Air swallowing occurs normally as a physiologic act and is frequently the cause of symptoms.

Air may be trapped in the stomach and cause gastric, respiratory and cardiac symptoms.

In gastro-intestinal pneumatosis, swallowed air passes from the stomach into the small and large intestine, giving rise to a new clinical syndrome, chiefly with intestinal symptoms—abdominal cramps, flatulence and the passage of large quanti-

ties of odorless gas per rectum. Air bubbles in the intestine may be demonstrated roentgenologically.—DR. A. WINKELSTEIN, New York, in *J.A.M.A.*, May 10, 1930.

### Schizophrenia Following Influenza

A large number of cases of toxic neuritis and of psychoses, whose onset dated back to an influenzal attack, have been seen. The organism producing influenza frequently possesses a high degree of neurotoxicity and, in addition to evoking a schizophrenic reaction, may cause other mental states such as acute manias and depressions; however, the schizophrenic reaction is the mental reaction most frequently caused by influenza. This schizophrenic reaction has a much more favorable prognosis than that in orthodox dementia precox.—DR. G. R. KAMMAN, St. Paul, in *J.A.M.A.*, April 26, 1930.

### Test for Globulin in Urine

Serum-globulin is more abundant in the urine in certain cases of nephritis and pneumonia. Its presence may be determined by diluting the previously filtered urine with ten times the amount of distilled water, when a precipitate shows the presence of globulin. The reaction is hastened by the addition of two drops of dilute acetic or boric acid.—DR. LOUIS HEITZMANN, in "Urinary Analysis and Diagnosis."

### New Concepts in Nephritis

Chemical studies of the blood and the body fluids, detailed histologic studies of diseased kidneys, the routine use of the blood pressure machine and the ophthalmoscope, have added to our understanding of the kidneys, and master clinicians have taught us how to correlate histologic changes in the kidneys with symptoms which are the expression of abnormal functions. As a result, we have escaped from old concepts, current among clinicians of the older generation.

We do not speak now of chronic parenchymatous nephritis and of chronic interstitial nephritis. Especially, we have drawn away from the clinical use of purely gross anatomic descriptions. We do not care now whether a kidney is white or red, large or small. Instead we have developed

new concepts—the concept of renal insufficiency; the concept of what we mean by uremia, by nephrosis, especially lipid nephrosis; and the concept of malignant renal sclerosis.—DR. H. ELWYN, New York City, in *Am. Jour. Med. Sc.*, Feb., 1930.

### Intraocular Hypertension and the Internist

Intraocular hypertension is a symptom of something wrong in a person in a poor physical condition. Thus, when we meet intraocular hypertension, we may expect to find an individual in the stage of physical wear and tear, whose organism has been affected by the changes of advancing years.—DRS. C. W. GEIGER and J. H. ROTH, of Kankakee, in *Illinois M. J.*, Feb., 1930.

### Postoperative Alkalosis

Alkalosis is not an infrequent postoperative complication in surgical conditions in the abdomen. In the presence of persisting vomiting after laparotomy, recourse should be had to blood chemistry determinations. If those indicate an increase in urea nitrogen, a decrease in chloride, and increased carbon dioxide combining power, alkalosis is the probable diagnosis and remedial measures should be adopted before the urine begins to show marked evidence of renal damage. Solutions of sodium bicarbonate, in any form, should be avoided; as soda is frequently employed for gastric lavage, it is particularly important to bear this point in mind.—DR. C. G. HEYD, New York, in *Am. J. Obstet. & Gynec.*, Feb., 1930.

### Cure in Nervous Patients

The nervous patient is on the path to recovery as soon as he has the conviction that he is going to be cured; he is cured on the day when he believes himself to be cured.—DR. DUBOIS, Berne, Switzerland.

### Epithelioma of the Penis

In a series of 75 cases, the first symptom, in 73 percent of the patients, was a small sore on the penis. Nine (9) percent were aware of increased irritation, soon followed by the appearance of a small sore. Five (5) percent suffered from paraphimosis, circumcision revealing a carci-

noma. Five (5) percent first saw warts beneath a tight prepuce.

When leucoplakia precedes cancer of the penis, the patients notice an area of "scaly skin" or what appears to be a "corn." Occasionally the first intimation of the disease is a hard nodule, situated in the distal third of the penis. When it is impossible to retract the prepuce to afford a thorough examination of the lesion, a dorsal slit or lateral incisions should be made, taking care not to cut into cancerous tissues.—DR. A. L. DEAN, New York, in *Am. J. Surg.*, May, 1930.

### Pregnancy as a Cause of Disturbed Vision

Three cases of pregnancy were accompanied by primary optic atrophy, retrobulbar neuritis and secondary optic atrophy respectively. In 2 cases the pregnancy seems to have been partly responsible for the development of cataract and chronic glaucoma.—DR. J. ROSENTHAL, in *Canad. M. A. J.*, Jan., 1930.

### Shoulder Pain

A very considerable number of extra-shoulder lesions are responsible for pain in the shoulder joint. This is mainly due to the fact that the nerve supply to the shoulder is from the fifth and sixth cervical nerves. Cardiovascular lesions, pleural, pulmonary and mediastinal lesions, as well as intra-abdominal lesions, are frequently the cause of shoulder pain. It is well recognized in gall-bladder disease. Neurologic conditions, involving the fifth and sixth cervical nerves directly (such as cervical Pott's disease, cervical ribs and arthritis of the cervical spine), may also cause shoulder pain.

In regard to pain from lesions within the joint itself, a negative roentgenogram is of little value in attempting to rule out arthritis or bursitis, because the lesion is frequently entirely in the soft parts.—DR. M. CLEVELAND, New York, in *Am. J. Surg.*, Apr., 1930.

### "Chronic" Appendicitis

Acute appendicitis is an established clinical entity, the remedy for which is prompt operation. Of appendicitis as a recurring or relapsing disease, there can be no basis for quarrel.

There is, however, another type of appendicitis which has no such definite etiology. It is the type manifested, primarily, by pain in the right iliac fossa; secondarily by vague digestive disturbances—the so-called appendiceal dyspepsia.

In the face of figures from authoritative sources, I believe the case for chronic appendicitis of the non-recurring type can not stand. This type is the happy hunting ground of the occasional operator, and a large percentage of such patients receive no benefit whatever from operation.—DR. U. MAES, in *Am. J. Surg.*, Apr., 1930.

### Conception After Hysterectomy

A patient, who had had a subtotal hysterectomy and right salpingo-oophorectomy performed two years and nine months previously presented herself with an abdominal tumor, which a laparotomy proved to be a living, 7-months fetus. The placenta was attached to the peritoneum of the intestines, bladder and omentum. The mother recovered uneventfully. The child died, after 2 months, from infectious cervical adenitis.—DR. RAYMOND J. BOWER, Williamsport, Pa., in *Penna. Med. Journ.*, Nov., 1929.

### The Spinal Reflexes

The spinal reflexes embrace all reflex effects resulting from the application of stimuli to the nerves associated with the spine, which includes the central or somatic system and the sympathetic or vegetative system. These two systems, with the endocrines as a factor, are stabilizers of the body.

Study of the spinal reflexes opens a broad field for scientific investigation in the treatment of local pain through spinal cord segments, in association with definite skin areas. It offers a mine of research for the establishment of more definite localizations as to site of stimuli, part stimulated and reflex arcs, as well as the relative effect of different stimuli of the same area as regards strength, duration of application and type.—DR. L. H. ARNOLD SNOW, of New York, in *Physical Therap.*, Apr. 1930.

### Temporary Ureteral Kinks

Ureteral kinks are very frequently demonstrated in pyelograms and are believed to be the source of symptoms; however, on operation, very often there is no actual kink. Such kinks form following the x-ray technician's direction to "take a deep breath and hold it." In every case where this was done, the patient being in a horizontal position, the kidney was found to be displaced downward. In some cases a kink was produced by the deep inspiration, yet a second exposure showed the ureter to be perfectly straight. This explains the frequent appearance of ureteral kinks on pyelograms. They are temporary only.—DRS. G. J. THOMPSON and H. C. BUMPUS, Rochester, Minn., in *J.A.M.A.*, Mar. 15, 1930.

### Suppurating Deep Iliac Glands

Acute inflammation of the deep iliac glands is not rare and gives rise to symptoms which simulate acute appendicitis, acute purulent arthritis of the hip joint or acute osteomyelitis of the femur. Psoas spasm is a leading feature and the pain is usually referred to the neighborhood of Poupart's ligament. When an abscess has developed, a fulness may sometimes be seen just above the upper half of Poupart's ligament. The differentiation from an appendiceal abscess is delicate.—DR. HAMILTON BAILEY, in *Practitioner*, London, Feb., 1930.

### Effect of Magnesium Sulphate on Digestive Glands

From experiments on dogs, it has been found that a 30-percent magnesium sulphate solution acts in the stomach as a mild irritant, producing a very small flow which is usually alkaline. There is a copious secretion from the intestinal glands all along the small gut, produced by the local contact of magnesium sulphate with isolated loops of gut. This occurred in the upper and lower duodenum as well as in the ileum and jejunum.—DRS. W. H. GANTT, of Baltimore, Md. and G. V. VOLBORTH, of Leningrad, Russia, in *Am. J. Med. Sc.*, Mar., 1930.

# Current Medical Literature

## Hypertonic Solutions in Increased Intracranial Pressure

The general practitioner is sometimes faced by the alarming symptoms of increased intracranial pressure, under circumstances where surgical intervention is quite impracticable. In such a situation, the suggestions regarding the use of hypertonic solutions, set forth by Dr. Russell Brain, in *Brit. M. J.* for Jan. 21, 1928, may be helpful in saving a life.

1.—**Intravenous Injection:** Intravenous injection is used when it is desired to lower the intracranial pressure as rapidly as possible. The most convenient hypertonic solution for intravenous use is a sterile solution of sodium chloride in distilled water. The maximal dose is 100 cc. of a 30-percent solution, and I have given this amount in certain conditions without ill effects. For most purposes, however, this is more than is necessary, and it is sufficient to give 70 to 100 cc. of a 15-percent solution, or half these amounts of a solution double the strength.

Some workers employ concentrated solutions of dextrose, for which certain advantages are claimed. It is said that after the intravenous injection of dextrose the fall of intracranial pressure is slower and more sustained, and is less likely to be followed by a reactionary rise than after the use of sodium chloride. Moreover, dextrose possesses nutritive value, and is of help in combating shock and acidosis. The maximal dose is 100 cc. of a 50-percent solution in isotonic saline solution. Whether sodium chloride or dextrose solution is employed, it should be administered very slowly, at a rate not exceeding 3 cc. a minute.

2.—**Administration by the Mouth:** To obtain comparable results by oral administration, it is necessary to give large amounts either of sodium chloride or of magnesium sulphate. The dose of the former is 16 Grams, given in 2-Gram capsules with 80 cc. of water; and of the latter, 3 ounces (90 cc.) of a 50-percent solution. Oral administration possesses certain disadvantages, and I have not employed it to obtain a rapid reduction of intracranial pressure. Repeated doses of one-half to one dram (2 to 4 Gm.) of magnesium sulphate may, however, be given by the mouth when a mild continuous action is desirable.

3.—**Rectal Administration:** This is the most generally useful way of giving hypertonic solutions. The dose is 6 ounces (200 cc.) of a 50-percent solution of magnesium sulphate, which should be run slowly into the rectum at body temperature. Unless it is retained for half an hour it will not produce its full effect and should be repeated an hour later.

Some points of importance in the use of hypertonic solutions must be mentioned. Since

the method operates by dehydration, the patient's intake of water must be restricted if the full effect is to be obtained. Solutions of magnesium sulphate should on no account be given intravenously, since, when administered by this route, they produce general anesthesia and respiratory paralysis. The rectal injections, if repeated too frequently, may produce irritation of the rectum.

## Diphtheria Toxoid as an Immunizing Agent

In Gary, Ind., as stated by Dr. O. B. Nesbit, in *J. Indiana St. M. A.*, Oct., 1930, during the 5 years prior to the beginning of immunization against diphtheria, there were 566 cases of diphtheria and 60 deaths. Since Aug., 1924, there have been 302 cases and 28 deaths. During 1929 only 49 cases were reported and there has been no death.

From Aug., 1924, until Aug., 1928, 5,500 children were given diphtheria toxin-antitoxin; 3,300 have received diphtheria toxoid. The toxoid has been given principally to children under 8 years of age. The children who have had toxin-antitoxin or toxoid generally are escaping diphtheria. Because less reactions occur with the same number of doses, the use of toxoid is more desirable than toxin-antitoxin.

The plan now being carried out in Gary is: All apparently well children between the ages of 6 months and 8 years are given 3 doses of diphtheria toxoid; first 0.5 cc.; second, twenty-one days later, 1.0 cc.; third, two to three weeks after the second dose, 1.5 cc. If any of the doses should produce a severe reaction the size of the next dose may be varied.

Children above 8 years old, if a Schick test is negative, are not immunized against diphtheria.

## Bismarsen in the Treatment of Syphilis

In *Arch. Dermat. & Syph.*, Sept., 1930, Dr. C. H. de T. Shivers, of Atlantic City, N. J., reports that a careful study was made of 152 patients in the outpatient department of the Atlantic City Genito-Urinary Clinic, suffering from all types of syphilis and placed on Bismarsen therapy.

To a much larger number of patients, over 5,000 injections of Bismarsen were given. Two patients under treatment developed a generalized dermatitis; both recovered.

The work has shown that the use of twenty injections of neoarsphenamine of 0.6 Gm. each

and twenty injections of potassium bismuth tartrate of 0.1 Gm. each is more efficient than Bismarsen alone in sterilizing patients who have early syphilis. Therefore, in this stage, the latter drug should be used only as a second course; thus a larger percentage of patients will be completely sterilized and at the same time complications, which frequently occur during the second course of intravenous treatment, will be avoided.

Those in whom Bismarsen may well be the only drug used for early syphilis are old people, debilitated persons and patients in whom syphilis is complicated by another disease.

In late syphilis, Bismarsen is more frequently the drug of choice when one wishes to administer arsenic and bismuth, as the reactions are much fewer and consequently the danger less. The clinical improvement and effect on the Wassermann reaction have been very favorable.

The clinical effect of this drug in cerebrospinal syphilis, especially of the acute meningeal type, has been most striking.

### Diet in Diabetes

Things are apt to go wrong now and then in a diabetic case treated by insulin, owing to the breaking of the rules, which must be strictly adhered to.

In *Practitioner*, Lond., Sept., 1930, Dr. M. O. Raven, points out that, in the "starvation" or "ladder-diet" method of treatment, a principle is that, if a patient first gets free from glycosuria by 24 or 48 hours starvation and is then given a graduated diet, the caloric value of which is raised each day until sugar reappears, he ultimately reaches a higher diet than he would have if the diet had been gradually reduced from the normal downward.

Dr. Raven is of the opinion that, by keeping the diet for a long period of time within the limit at which sugar appears in the urine, the food tolerance can undoubtedly be raised in the case of patients suffering from comparatively mild diabetes and the dangers of insulin be avoided. He has found this to be the case in his own practice and cites several instances.

### The Use of Spartein Sulphate in Anuria

The value of spartein sulphate in the treatment of anuria following surgical operations is not sufficiently known. Dr. E. H. Ochsner, of Chicago, calls attention to it in an article in *Urol. & Cutan. Rev.*, Oct., 1930.

To get results in cases of suppression of urine, the drug must be given hypodermically, in doses of from 1 to 2 grains (0.065 to 0.13 Gm.), repeated every three to six hours.

Dr. Ochsner states that since he first began to use this drug, many years ago, he does not know of any remedy that has given him greater comfort and assurance in his surgical work. He has not lost a single case from anuria following a surgical operation, while before he knew of the remedy he lost a number of cases from this cause. Some difficult cases are cited to show the value of spartein sulphate. The drug has

been used in every instance where the kidneys fail to function following surgical operations.

In anuria due to other causes than operation and anesthesia, the administration of spartein sulphate, even in large doses, does not seem to be of any particular value.

### Cooperation Between Internist and Dentist

The necessity for constant cooperation between internists and dentists is the subject of an article by Dr. A. J. Atkinson in *Bull. Chicago Dental Soc.*, Sept. 26, 1930.

Dr. Atkinson points out that the dentist is frequently called upon to extract teeth of patients who may not have had a physical examination in years, if at all. Some may be the victims of marked arteriosclerosis, coronary disease, mild angina pectoris, hypertension, syphilis, diabetes, tuberculosis or hyperthyroidism. Accidents may occur, and the extraction is then considered the direct cause of death or of resulting pathologic complications. Coronary disease may be entirely unsuspected, the only symptom being belching, but the shock of an extraction might be sufficient to cause a fatal termination.

In hyperthyroidism, extraction of infected teeth may be so beneficial to the course of the disease that a thyroidectomy is avoided. However, the possibility of the extraction precipitating a crisis necessitates preliminary medical treatment, so that the patient may be in the best preoperative condition attainable.

Sometimes a nervous breakdown occurs as the result of tooth extraction, in an individual who is fatigued from overwork, loss of sleep, or worry. This patient should be advised to have a rest before attempting the operation. A mild or potential diabetes may be set off by an extraction, developing a very severe acidosis and coma, or there is the possibility of infection of the lacerated gums and osteomyelitis. Only with the patient on accurate dietary management, should the teeth be removed in the diabetic. The removal of infected teeth then may aid in the subsequent gain in the patient's tolerance for carbohydrate. The dentist, however, should not be too radical, since frequently the mouth condition improves and loosened teeth become firm after proper medical management.

### Narcosis in Neuropsychiatric Therapy

In *J.A.M.A.*, Oct. 18, 1930, Dr. W. I. Bleckwenn, of Madison, Wis., reports that the use of sodium iso-amyl ethyl barbiturate has been found of great therapeutic value in conditions of extreme psychomotor unrest, catatonic excitement, in psychoneuroses with disordered sleep, in status epilepticus, eclampsia, tetanus and in depressed states.

The aim has been to bring about a state of analgesia short of surgical anesthesia, but deeper than normal sleep. The narcosis is produced once in 24 hours the initial phase of deep sleep lasts from 4 to 8 hours, followed by a period of 4 to 6 hours during which time

the former excited and restless patient remains awake but is quiet and relaxed.

The agitated depressions of the involutional type are treated quite like the excited states. Normal lucid intervals, with spontaneous speech and the taking of nourishment, are seen in protracted cases of catatonia, schizophrenia, and the stubborn insomnia associated with the more severe psychoneuroses is broken down.

The narcotic is freshly dissolved in triple-distilled water. A 5-percent solution is made, each cc. containing  $\frac{1}{4}$  grain (0.048 Gm.) of the drug. The solution is injected intravenously at a rate not to exceed 1 cc. per minute. It is absolutely safe in a neuropsychiatric case, as an initial dose, to give 2 cc. more than is necessary to produce corneal anesthesia. The average patient will receive between 7 and 15 grains intravenously. The drug may also be administered intramuscularly or orally. The patient should have no food for from 4 to 6 hours preceding the injection. The daily injections may have to be continued for a long period and apparently have no untoward reactions.

### The American Child Health Association and Dental Decay in Children

In accordance with the National Child Health Program, being carried out under the auspices of the President of the United States, the American Child Health Association prepared and issued certain monographs dealing with the public health aspects of dental decay in children.

In *J. Dent. Research*, Oct., 1930, the Oral Hygiene Committee of Greater New York protests against the conclusions reached in the monographs referred to, as being unscientific in method, based on insufficient data and not taking cognizance of previous dental surveys. An analysis of the monograph is given in the article and also the reasons why the New York Oral Hygiene Committee and other dental bodies have protested against what they believe to be assumptions and wrong conclusions.

### Ethmoidal Injections in Hay-Fever

Based upon an experience of more than 100 alcohol injections of the anterior ethmoidal nerve, in cases of hay-fever, Dr. Hiram Byrd, of Detroit, as reported in *J. Mich. St. M. A.*, Aug., 1930, concludes that, compared with immunization methods, the injection of the anterior ethmoid nerves for hay-fever appears to have the following advantages: it is as applicable after the onset as before; it eliminates the allergic tests for the offending pollen; it involves little loss of time for the patient and much conservation of energy for the physician; it eliminates the unhappy reactions occasionally encountered in desensitization; it yields a larger percentage of positive results; and, finally, it is applicable to seasonal and nonseasonal types alike.

The foregoing considerations would seem to make injection of the anterior ethmoidal nerves the procedure of choice in the treatment of hay-fever. It is, perhaps, the only procedure appli-

cable with marked success to those cases of hay-fever in which desensitization fails, and is well nigh the only procedure applicable with any considerable success to affections mentioned under such terms as vasomotor rhinitis, hyperesthetic rhinitis, and nasal hydrorrhoea.

The author injects 0.25 cc. of 95-percent alcohol, with the addition of  $1\frac{1}{2}$  percent procaine, into the anterior ethmoidal foramen.

### The Broadening Field of Neuro-surgery

In a review of the present condition of neurosurgery by Drs. G. W. Swift and P. G. Flothow, of Seattle, in *Northwest Med.*, Aug. 1930, they point out that the neuro-surgeon is no longer a brain surgeon alone, as was the old conception, but is, in addition, a cord surgeon, a nerve surgeon, a neck and chest and an abdominal surgeon.

Added to the newer intracranial procedures, including the improved avenues of approach to brain tumors offered by the Bovie-Cushing and other electric operating devices, there are the surgical methods of injections for trigeminal and other neuralgias, cordotomy, operations for relief of epilepsy, rhizotomy, sympathectomy and ganglionectomy, the latter being one of the latest innovations for the relief of vasospastic disease, scleroderma and polyarthritis. The authors cite W. J. Mayo as saying that surgery of the future is the surgery of the sympathetic nervous system.

### Posterior Urethrographs

In *Urol. & Cutan. Rev.*, Oct. 1930, Drs. B. P. Strokov and I. Schischov, of Moscow, Russia, describe their method of making pictures of the posterior urethra (cysto-urethrographs). As a contrast medium they prefer sodium iodide, 10 to 12 percent, which is injected into the bladder through a catheter, a quantity of from 200 to 300 cc. of the fluid being used. The picture is taken during urination, with the patient lying down. A patient can learn this method of urination after a little practice.

Study of the literature of urethrography and their own experience of many cases, lead the authors to conclude that urethrograms permit a favorable claim for roentgen diagnosis in diseases and anomalies of the urethra. The technic is simple and the method is painless, fruitful and of special value when operation is contemplated or to control cases already treated.

### Nutrition of Children on a Mixed and on a Vegetable Diet

In *Am. J. Dis. Child.*, Aug., 1930, Dorothy E. Lane and Florence H. Bosshardt, of Berkeley, Calif., report their findings in the experimental feeding of a group of children, since 1918, on a combination of vegetable foods, as compared with the ordinary mixed diet of meat, milk, bread and vegetables.

From the results of the feeding tests there appears no reason to conclude that a scientifically balanced milk diet, including  $1\frac{1}{2}$  pints to 1

quart of milk a day per child, produces greater growth or better health in growing children, from 7 to 15 years old, than does a scientifically chosen vegetable diet, furnishing a smaller amount of calcium. If there is a greater calcium storage on the milk diet than on the vegetable diet (a supposition which does not appear justified by the gains in height and weight or the other data here presented) there still would seem to be no reason for assuming such excessive storage advantageous for the general health of growing children. Excessive calcium storage may possibly obscure a clear perception of the function of other factors in the diet, whether it be that of the calorie-producing nutrients, the various minerals and vitamins or the acid-base equilibrium of the blood.

A diet of vegetable foods, carefully selected with special reference to the quality and quantity of the protein, low in fat, comparatively high in carbohydrate, with adequate amounts of the various minerals and high in vitamins, produced, in ten weeks, as satisfactory increases in all physical measurements observed in children from 7 to 15 years old, and in most cases greater increases, than a similarly carefully planned milk-and meat-containing diet.

### Pseudo-Tabes

The term pseudo-tabes has been given to a symptom complex which more or less resembles true tabes. It is due to meningitis involving the posterior roots of the spinal nerves, with secondary degeneration of the posterior columns. It is essentially a manifestation of the secondary stage of syphilis.

In *Urol. & Cut. Rev.*, July, 1930, Dr. I. O. Knight, of Louisville, in reporting a case, states that the Argyll-Robertson pupil, which is so characteristic of true tabes, is rarely if ever present in the pseudo type, which serves to distinguish this form clinically from true or proven tabes occurring in the tertiary stage. The Wassermann reaction of the spinal fluid is usually negative. Pseudo tabes is quickly amenable to antiluetic treatment.

### Hyperthyroidism in Emergency Surgery

Acute hyperthyroidism is not rare; it may be stimulated by a surgical emergency, and become an important post-operative complication. Treatment, to be effective, should be early and instituted at the time of the treatment of shock, hemorrhage, etc., if symptoms are then recognized.

Reduction of toxicity is best accomplished by saturating the thyroid with iodine; if the patient is unable to take it by mouth, it may be given by hypodermoclysis—50 minimis of Lugol's solution in 1,5000 cc. of isotonic saline solution; or intravenously, as sodium iodide solution, 31 grains (2 Gm.), in 1,000 cc. of physiologic saline solution, and dextrose. It may be given by proctoclysis, 60 drops of Lugol's solution in

500 cc. isotonic saline, by continuous drip, repeated three times in 24 hours.

When hyperthyroidism arises post-operatively, it should be controlled promptly to prevent an acute thyrotoxic crisis.—DR. J. K. BERMAN, of Indianapolis, in *Indiana St. M. A.*, Sept., 1930.

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### Ear Infections and Intestinal Tract Infections in Infants

Many investigators believe that infection in the mastoid antrum is the cause of acute intestinal intoxication in infants.

As reported by Dr. D. E. S. Wishart, of Toronto, in *J.A.M.A.*, Oct. 11, 1930, five years' clinical and autopsic study of the latter disease, undertaken in the Hospital for Sick Children, Toronto, disproves this view. Many infants remained without any ear infection throughout the whole course of the illness. Mastoid operation as a cure for the disease was a failure. When mastoid infection exists, it is the result, and not the cause, of the child's lowered condition. There was no correspondence between the bacteriology of the infection in the upper respiratory tract, when such existed, and that in the intestinal tract. The author concludes that infection of the mastoid antrum is not the cause of acute intestinal intoxication in infants.

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### Uranium Salts in Dermatology

In *Urol. & Cutan. Rev.*, July, 1930, Dr. N. E. Aronstam, of Detroit, states that favorable results may be obtained from the use of uranium salts in dermatology, owing to their radioactivity. The only uranium salt available to the author was the nitrate, and this he has experimentally found to be most efficacious as an ointment, in a strength between 1.0 and 0.60 Gm. of uranium nitrate to 30 of white vaseline or cold cream. The author obtained excellent results in cases of pustular and squamous dermatoses, such as acne vulgaris, sycosis, folliculitis, lupus erythematosus, psoriasis and rosacea.

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### Calcium Gluconate Therapy in Eclampsia

Some cases of eclampsia are accompanied by a hyperguanidinemia. According to certain French authors, Laffont, Malmejac and Sirjean, in *Bull. Soc. d'Obstet. et de Gynéc.*, Paris, June 1930, hyperguanidinemia and hypocalcemia are associated. In one case of eclampsia, in addition to a barbiturate, 7 grams of calcium gluconate were given intravenously, intramuscularly and subcutaneously, with complete cure in less than 24 hours. In a second case, 15 grams of the lime salt were given and, since guanidine metabolism is most probably governed by the parathyroids, parathyroid extract was also given. Complete cure was established in 72 hours. From these 2 cases the value of calcium medication in eclamptic seizures appears, according to the authors, to be established.

## Preventive Vaccination with B. C. G. Against Tuberculosis

In *M. J. & Record*, Aug. 6, 1930, Prof. A. Calmette, of Paris, gives the result of preventive vaccination against tuberculosis by the well known "B.C.G.", during the four years 1924-1928. In France, during this period, 116,180 infants were so vaccinated. Among these were 3,607 who had been born of tuberculous mothers or who had lived among germ carriers. The tuberculosis death rate among these vaccinated infants from a month to a year old, during these four years, was 1.5 percent; among children from 1 to 5 years old, the rate was 0.3 percent. The general death rate among the vaccinated children from one month to one year who had remained in a tuberculous environment was 7.3 percent and among children from 1 to 4 years old 1.7 percent.

Carefully checked statistics have shown that the death rate of children born of tuberculous mothers but not vaccinated with B.C.G. vaccine has been: from tuberculosis, 15 percent and from all causes 24.2 percent. The death rate of children born and raised in a tuberculous environment and not vaccinated was: from tuberculosis 13.9 percent and from all causes, 18 percent.

Checked statistics show that among infants of the same age, born and raised under absolutely similar conditions, supervised and followed up by the same institutions, the preventive vaccination with B.C.G. has reduced by three-fourths the tuberculosis death rate and has almost cut in half the death rate from all causes.

In connection with this, Dr. Leon Bérard gives, in the same journal, the report of the Committee of Hygiene of the League of Nations regarding B.C.G. The Commission of Bacteriologists reported that B.C.G. is a harmless vaccine; the Clinical Commission, that B.C.G., administered by mouth to newly born babies during the first ten days of life or subcutaneously to older children or to adults, was inapt to cause virulent tuberculosis, and that, as a preventive, it provoked a certain degree of immunity. The Commission of Veterinarians reported that B.C.G. vaccination of cattle was perfectly harmless and that it possessed immunizing power against both experimental and natural infection with tuberculosis.

## Controlling Absorption of Pituitary Extract in Obstetrics

The objection to the use of pituitary extract in obstetrics is its tendency to produce excessively powerful and even tetanic contractions of the uterus.

In *Am. J. Obstet. & Gynec.*, Aug., 1930, Dr. S. Hanson, of Stockton, Calif., describes a method of controlling the absorption of the injected pituitary extract by means of a tourniquet applied above the point of injection.

Three-tenths (0.3) cc. of the pituitary solution (10 international units per cc.) is injected hypodermically below the level of the cuff of a sphygmomanometer, applied at the wrist and

inflated up to a pressure just above the patient's systolic blood pressure. The pressure is then released for 30 seconds and reapplied for 2 minutes, alternately, for a period of 20 minutes. The rate of absorption is thus reduced to one-fifth of the normal rate.

If the pains do not become excessive in strength or frequency by the end of the initial period of 20 minutes, it is safe to release the pressure permanently. However, should excessively powerful contractions develop at any time during the above period, constriction is immediately reapplied and is maintained for intervals of as long as 10 minutes alternating with periods of relaxation of only 10 seconds. In this manner absorption may be completely interrupted for half an hour or longer, depending on the indications.

The pressure is applied at the wrist for the reason that it causes much less discomfort there than it does higher up on the arm.

## Sodium Ricinoleate in Intestinal Auto intoxication

In 70 cases presenting the usual symptoms of so-called intestinal auto intoxication, 5-grain capsules of sodium ricinoleate (Soricin) were given three times daily before meals. The only other treatment was that, in the majority, an autogenous vaccine was also administered daily.

Thirty (30) patients of this group were entirely relieved of their symptoms. The majority of the remainder obtained great relief, though not entirely rid of their symptoms. Relief was usually obtained after a few days' treatment.

It is known that sodium ricinoleate is capable of rendering bacterial antigens non-toxic—DRS. R. S. MORRIS AND S. E. DORST, of Cincinnati, O., in *Ann. Intern. Med.*, Oct., 1930.

## Calcium Therapy

A discussion of methods of calcium administration and of its therapeutic effects is given by Prof. E. Barath, of Budapest, in *M. J. & Record*, Aug. 6, 1930.

Regarding the specific effect of calcium on human metabolism, Barath says that it is maintained by means of a delicately adjusted regulatory system, in which fixation and mobilization by the tissues assume the principal role. Calcium exerts a dual action on the vegetative nervous system; namely, an initial well marked vagus stimulation, followed by a weak stimulation of the sympathetic.

The previous findings on the circulatory system were confirmed; i.e., bradycardia and rise in blood pressure, with slight vasoconstriction. The blood sugar is increased slightly after intravenous injection of calcium. In nephritis, calcium causes a diminished nitrogen excretion, together with a marked excretion of water. The action of calcium in checking hemorrhage is attributed to a decreased permeability of the walls of blood vessels. The action of calcium in the stomach is similar to vagus stimulation (increase in acidity and acceleration of motility).

Regarding the therapeutic application of calcium, it is concluded that calcium gluconate is a particularly desirable form of calcium for therapeutic purposes, because it is tasteless and because no untoward results follow its injection. Calcium therapy is recommended in the treatment of pulmonary, gastric and cholemic hemorrhages.

Calcium therapy acts beneficially in anaphylactic conditions (spastic form of bronchial asthma, hay-fever, urticaria, Quincke's edema, mucous colitis and vasomotor neuroses). Calcium may affect favorably arsphenamine reactions, or, given prophylactically, prevent them.

In cardiac diseases, it is recommended to use the combined digitalis-calcium form of treatment, because of the analogous action of both drugs.

Diarrhea is controlled by calcium given intravenously. The action of calcium in infectious diseases is doubtful; its use in the treatment of certain poisonings (as by oxalic acid, arsenic, chinidin and cocaine) is most promising.

Calcium therapy is conceded to be of symptomatic value in the treatment of pulmonary tuberculosis.

The use of calcium in the treatment of edema, renal, or of other origin, is recommended.

### Treatment of Suppurative Otitis Media

In suppurative otitis media, little attention has been given by the profession to the principle of continuous drainage, following incision or spontaneous rupture, on which success or failure depends.

In J.A.M.A., Oct. 25, 1930, Dr. J. A. Pratt, of Minneapolis, states that he has consistently followed this mode of treatment for the past 25 years, with what he considers remarkable success. The main steps in the technic are given as follows:

1.—A small piece of absorbent cotton is laid on the tip of the first finger of the left hand; then the end of an applicator (or toothpick) is placed in the center of the cotton.

2.—The thumb is placed lightly over the cotton and applicator (or toothpick); then, with the right hand, the applicator is twirled away from one, leaving a small space between the thumb and the first finger to shape the cotton.

3.—The cotton is now an evenly wound swab, about  $1\frac{1}{2}$  inches long.

4.—The swab, on the applicator, is now inserted into the ear canal down to the drum and the discharge wiped out. When the canal is dry, a swab is left in the canal and this must touch the drum. To remove the applicator, one finger is placed on the cotton, the applicator is slightly turned in the opposite direction to loosen it, and then it is withdrawn.

5.—The swab must be made small enough to pass through a medium-sized ear speculum.

6.—The swab should be changed as often as it is half filled with discharge, whether five minutes or five hours, the object being to suck the discharge out of the middle ear cavity as rapidly as it is formed.

7.—It will be found necessary in acute cases to change the swabs night and day for the first forty-eight hours. The reward is a rapid recovery, free from pain, the reduction of the septic condition and avoidance of mastoiditis.

8.—The one objection given to this method of treatment is the time it takes to instruct the patient. It is rarely necessary to instruct the patient after the second day. A printed card illustrates and describes the method of making and applying the swab. This card is given to the patient.

### Perineal Anesthesia in Obstetrics

Perineal anesthesia by local infiltration was introduced into the United States in 1913, but never became popular.

In Northwest Med., July, 1930, Dr. T. Torland, of Seattle, states that during the last 10 years he has used the perineal nerve block as a routine in practically all labors of primiparas and multiparas, without complications or untoward results.

The injection is very simple: One-half (0.5) and 1-percent procaine solutions are used. The pubic arch must be palpated to be sure of landmarks. In the anterior triangle the needle is inserted 2 to 4 cm. above the lower margin of the vagina and 2 cm. from the rami. The needle is passed 2 to 4 cm. deep, until the resistance of Colles' fascia is felt. This is pierced and 3 to 5 cc. of a 1-percent procaine solution injected. In the posterior triangle the needle is inclined laterally and entered at a point midway between the anus and the tuberosities, to a depth of 4 to 5 cm., and 5 to 10 cc. of a 0.5-percent solution is injected on each side.

### Blood Pressure Safeguards During Surgical Operations

In Anesth. & Analg., July-Aug., 1930, Dr. C. J. Durshordive, of Buffalo, cites a number of cases showing the importance and even the necessity of the anesthetist investigating the patient's blood pressure prior to operation. The systolic and diastolic pressures should be noted, as well as the pulse pressure.

The outstanding single feature of surgical shock is the constant drop in blood pressure. This is always present and occurs for some time before there are any other signs of the impending condition, and in sufficient time to allow the inauguration of measures to counteract it.

# NEW BOOKS

## Cecil: Textbook of Medicine

A TEXTBOOK OF MEDICINE. By American Authors. Edited by Russell L. Cecil, A.B., M.D., Sc.D., Assistant Professor of Clinical Medicine in Cornell University; Assistant Visiting Physician to Bellevue Hospital, New York City. And Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University; Head of Neurology in Cornell University; Head of Neurological Department, Bellevue Hospital, New York City. Second Edition, Revised and Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1930. Price \$9.00.

Cecil's textbook of medicine, compiled from the contributions of more than a hundred leading American teachers and practitioners, has been before the profession for four years and in that time has, by its merits, won a foremost place as an exposition of standard American practice.

The book is authoritative on every phase of the subject covered, each chapter being the work of a recognized professional or clinical teacher. The medical student as well as the practitioner will find the textual matter representative of the accepted present-day aspects of medical thought.

Radical changes due to progress have necessitated an entire resetting of the book in this second edition. Several new chapters have been added, including those on tularemia, *Brucella abortus* infections and essential hypertension. In addition, several chapters have been very extensively revised.

It would be difficult to point to any section of the book as being more conspicuous for its treatment than any other. Suffice it to say that every one of the 1,500 odd pages is illuminative and interesting and that the work as a whole is a storehouse of the best informative material for the present-day practice of internal medicine. The bookwork is commendable and the price reasonable for a work of this character.

## Curtis: Gynecology

A TEXT-BOOK OF GYNECOLOGY. By Arthur Hale Curtis, M.D., Professor and Head of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecological Service, Passavant Memorial Hospital, Chicago. With 222 Original Illustrations Chiefly by Tom Jones. Philadelphia and London: W. B. Saunders Company. 1930. Price \$5.00.

In these days, when compilation is the rule in the preparation of textbooks, one that is written throughout almost entirely from personal experience and study is rare. Dr. Curtis's work,

however, approximates this type; it is an amplification of his "Gynecological Diagnosis," a monograph written solely for use of the students of Northwestern University Medical School.

The author's aim is to present the specialty of gynecology in concise form and in an entirely independent manner. Despite the fact that the volume is small, the subject matter contained in it is an essentially complete presentation of everything that the writer believes is vital in gynecology. Personal cases, elucidated by original drawings, are scattered throughout the 8 sections into which the book is divided, and illustrate the clinical aspects of the matters dealt with.

These clinical aspects, the pathology and the treatment, are the features of gynecologic diseases particularly stressed by Dr. Curtis.

This manual is one that should be of special value to every general practitioner, as he will find in it the clinical features of those diseases, especially such as have a gonorrhreal foundation, which he meets almost daily.

Although Dr. Curtis's text is, as stated, as far as possible original, bibliographies of relevant contributions to easily available literature are given at the end of each chapter.

The bookwork is excellent and the typography, as well as the illustrations, clear and not crowded.

This is a distinct addition to American gynecologic literature and it should be accorded a deserved reception by the profession.

## Rackemann: Allergy

CLINICAL ALLERGY, PARTICULARLY ASTHMA AND HAY FEVER. Mechanism and Treatment. By Francis M. Rackemann, M.D., Physician to the Massachusetts General Hospital, Instructor in Medicine, Harvard Medical School, Boston, Mass. New York: The Macmillan Company. 1931. Price \$10.50.

The age of empiricism in medicine has passed away. Physicians today do not ordinarily prescribe drugs or other treatment merely because they have been observed to have certain clinical effects; in addition, the physician knows, or ought to know, the reasons why such clinical effects are produced.

Allergy, anaphylaxis and immunity are commonly spoken of today, yet how many physicians who observe these phenomena are sufficiently familiar with the biologic principles upon which such clinical mechanisms are based?

Almost everywhere throughout the world, but more particularly in the United States, the therapeutics of hay-fever and asthma is based on their presumable causation by hypersensitivity to certain allergens. This, of course, is only one part of general allergic problem, but it has given rise to a widespread

and critical interest and has led to a vast literature dealing with the theoretic and clinical aspects of allergy and immunity.

The objects of Dr. Rackemann's book are: first, to digest the mass of literature dealing particularly with asthma and hay-fever and to correlate the reported observations with the findings in the Anaphylaxis Clinic of the Massachusetts General Hospital; second, by means of these various sources, to define the present-day conception of the mechanism of asthma, hay-fever and allied disorders and then to discuss the methods of diagnosis and treatment, with the results obtained.

A glance over the volume will leave no doubt in the reader's mind that the task has been thoroughly and efficiently performed. There are two parts. Part I deals with the phenomenon of hypersensitization, discussing it thoroughly and from every angle. This part also includes the various diagnostic skin, and other, tests. Part II deals with the clinical manifestations of allergy, especially asthma, hay-fever, urticaria, eczema, etc.

While, on the whole, the book cannot be accepted as the last word on the etiology of these disease complexes, it is a notable addition to the literature of sensitization, anaphylaxis and immunity and a most valuable compendium of present-day views on these subjects, with the clinical results obtained from specific treatments.

The book is excellently printed on thick paper and is very legible.

### Kohn: Diseases of Digestive System

PRACTICAL TREATISE ON DISEASES OF THE DIGESTIVE SYSTEM. By L. Winfield Kohn, M.D., F.A.C.P., Formerly Assistant in the Gastro-intestinal Clinic, Johns Hopkins Hospital, Baltimore; Chief of the Clinic of Gastroenterology, Medico-Chirurgical College, Philadelphia; Gastro-enterologist to The Northwestern General Hospital, Philadelphia; Chief of the Gastro-intestinal Department, Temple University, Philadelphia, etc. Illustrated with 542 Engravings, Including 7 Full-Page Colored Plates. Volumes One and Two. Philadelphia: F. A. Davis Company. 1930. Price \$12.00 for two volumes.

To differentiate and to diagnose properly the various disturbances that may arise in the manifold organs of the digestive system, a fairly thorough knowledge of physiologic chemistry and of clinical laboratory tests of worth is more essential for the practitioner than reliance upon symptomatology, which is often deceptive. A combination and comparison of both will unquestionably be better still.

In this work the author has stressed particularly the physiologic side of gastroenterology (both normal and abnormal), but its association with the clinical condition is also fully discussed.

In the first volume, history taking, physical examination and objective as well as the mechanical, chemical, cytologic and x-ray investigations serve as an introduction to the special pathologic conditions of the different organs of the digestive tract, which are taken up in detail in the remainder of the two volumes. At the same time the author does not lose sight of the co-

ordination of the digestive organs and their pathologic disturbances with the other organic systems (especially the neurogenic).

There is a short chapter on surgery of the tract, contributed by Dr. Zachary Cope of London, Eng.

A comparison of this presentation of diseases of the digestive system with a textbook on the same subject, written say twenty-five years ago, will show the vast differences in the profession's present-day conception, investigation and management of these diseases, and in itself offers an epitome of the progress of scientific medicine in this particular field. It may, therefore, be confidently recommended to students and practitioners who are looking for a modern textbook presenting the facts without dogmatism.

A word should be said in commendation of the excellent illustrations which the author apparently has prepared with less consideration for artistic effect than for elucidation of the points he wishes to visualize.

### Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. New York Number. Volume 14, Number 2, September, 1930. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, July 1930 to May 1931: Paper \$12.00; Cloth \$16.00.

The September, 1930, number of the Medical Clinics of North America contains 17 contributions from New York City clinics. A short paper by Dr. W. W. Herrick discusses the serum treatment of meningococcic infection. The management of coronary occlusions is treated by Dr. W. R. Williams. Dr. Connie M. Guyon gives an excellent exposition of the treatment of diseases of the thyroid gland. A joint paper by Dr. B. Baehr and P. Klemperer gives the clinical aspects and pathology of the important subject of thrombosis of the portal and hepatic veins. A practical discussion of the thyro-pituitary syndromes is offered by Dr. J. Eideberg.

Some other notable articles in this number are: "Pathogenesis of Peptic Ulcer," by Drs. I. W. Held and A. Allen Goldbloom; "Peribronchial Infiltration in Children," by Drs. H. Heiman and P. Cohen; "The Epilepsies," by Dr. S. Brock; "Embolism of the Systemic Arteries," by Drs. M. Packard and H. F. Wechsler; and "Object Lessons in Pediatrics," by Dr. G. W. Graves.

As usual, these papers are illustrated by clinical cases.

### Rolleston: Internal Medicine

INTERNAL MEDICINE. Clio Medica Series. By Sir Humphry Rolleston, Bart., G.C.V.O., K.C.B., M.D., Hon. D. Sc., D.C.L., LL.D., Regius Professor of Physics In The University of Cambridge, England. New York: Paul B. Hoeber. 1930. Price \$1.50.

This little pocket manual is one of the Clio Medica series, which aims to present the history of each of the main divisions of the healing art in a concise but yet correct and authoritative form.

As might be expected, the distinguished author of this volume handles his work in a thoroughly scholarly manner. Although at best only an outline, yet the story goes on in a readable, fascinating style and the reader who is not acquainted with the progress of internal medicine, as it unfolded itself from dim antiquity to the present day, in the various quarters of the civilized world, will find it here in a chronologic, reliable and entertaining form.

These little volumes make it easy for physicians to read medical history—as they should.

### Seifert and Mueller: Diagnosis

**MANUAL OF PHYSICAL AND CLINICAL DIAGNOSIS.** By Dr. Otto Seifert, Late Professor of Medicine, Wuerzburg and Dr. Friedrich Mueller, Professor of Medicine II Med. Clinic Munich. 140 illustrations and 3 Colored Insets. Philadelphia and London: J. B. Lippincott Company. 1930. Price \$6.00.

Seifert and Mueller's manual of physical and clinical diagnosis has run into 24 German editions. It has now been translated into English by Dr. Andrus.

The authors intended the book to meet the demand for a succinct presentation of methods of clinical examination and to furnish a collection of those essential data, a knowledge of which is an ever-present necessity to the physician at the bedside, based on the experience of clinical teaching.

In an introductory note, Dr. G. E. Fahr, of the University of Minnesota, states that the practitioner of medicine who has a copy on his desk will only rarely have to consult any other work on diagnostic methods and data; and this comment seems reasonable.

The bookwork is excellent, and the small size of the volume presents advantages.

### Putti: Artificial Limbs

**HISTORIC ARTIFICIAL LIMBS.** By Vittorio Putti, M.D., Professor of Orthopedic Surgery, University of Bologna. With 11 Illustrations. New York: Paul B. Hoeber, Inc. 1930. Price \$1.50.

Dr. Putti, of the Rizzoli Orthopedic Institute, Bologna, Italy, is one of the foremost orthopedic surgeons of the world. His brochure on certain old artificial limbs, made centuries ago, is a library piece—a book for the bibliophile who appreciates literary work for its own sake and bookmaking when the craftsmanship is fine, as in this case.

The old mechanical contrivances described here, and dating back to the 15th and 16th centuries were clumsy, but they appear to have worked and fulfilled their purpose.

### Leventis: Sex Glands

**SEX GLAND FUNCTION AND THE HUMAN LIFE.** By C. Leventis, M.D., Detroit, Michigan. 1930. Published by the author. Price \$2.00.

A man who has ideas with some real data to back them up, is certainly entitled to express them at his own expense, as the author of this small, privately printed book has done.

In his general thinking (which, of course, no one not so minded need follow), he seems to hold to the Victorian ideals of dress and behavior for women, and he takes the reactionary position of deprecating early instruction in matters of sex. This may be a natural position for an elderly Greek. His general comments on endocrinology are decidedly elementary.

The principal thesis is that the brain functions as a non-constructive endocrine gland, like the gonads and closely and reciprocally associated with them. There is, the author believes, a "love center" in the brain, upon which the creative urge generated by the gonads is normally discharged. If this urge is discharged upon other brain centers, the result may be "sublimation" or religio-sexual perversions. He also believes that an internal secretion of the mammary glands gives rise to the maternal instinct.

His contribution to the therapy of endocrine (especially gonadal) dysfunctions, essential hypertension and other diseases of possible endocrine origin, is a serum obtained from castrated asses, into whom implantations of gonads and injections of human blood serum have been made. He reports results with this serum which are interesting—if accurate.

The reading of this book is not without interest, if one will constantly remember that it is a presentation of personal opinions and almost wholly unsubstantiated hypotheses, which may, however, be found upon further investigation, to be sound and of real value.

### Munthe: San Michele

**THE STORY OF SAN MICHELE.** By Axel Munthe. With New Preface by the Author for the American Edition. New York: E. P. Dutton & Co., Inc. 1930. Price \$3.75.

Years ago, a vivid, impressionable Swedish youth visited the island of Capri. Climbing the steep path to the mountain village of Anacapri, where stood, in a long-past century, the villa of Tiberius, he was so thrilled by what he saw and felt that he vowed to own, one day, that site and to build there, from the Tiberian ruins, a villa of his own. Thus was born the vision of San Michele. This book tells how that vision was made a reality.

The youth elected to take up medicine and to specialize in psychiatry, so he studied under the famous Charcot, whose person and clinic he brings before us with astonishing verisimilitude.

When even an ordinary physician, and especially a psychiatrist, tells of his experiences with frankness and humor, it makes exciting reading. And Axel Munthe was and is no ordinary psychiatrist! His mornings were spent in ministering to the occupationless and self-indulgent women of the *haute monde* of Paris, and his afternoons in work among the poor foreigners in the slums. In both places he learned things about human beings which enlarged his vision and understanding; and he paints for us his experiences, of both kinds, with the few deft strokes which characterize the technic of an artist. Not only does he tell of experiences, but he sets forth his opinions of the practices of certain medical men, including himself, with

an unrestraint which might, at times, be embarrassing to such members of the profession as lack a strong and active sense of humor.

On one occasion, in order to escape a love affair with a beautiful countess whose husband was rather stolid and did not interest her, he ran away to Lapland. His tale of that trip makes the people and the place somewhat more than merely names in the geography.

He served through the great cholera epidemic in Naples and the terrible earthquake and eruption in Messina, and his simple, direct, almost naive recital of details of those disasters makes one's blood run cold.

A few years of work on the project of his life, surrounded by his younger brothers, the dogs and birds, which he understood with a keen sympathy, brought his savings to an end, so he returned to the practice of his specialty in Rome, and acquired more enlightening experiences.

And then to the fulfilment of his dreams, half quenched, just at their fruition, by a personal affliction which would have embittered a man with a less keen sense of life's basic values!

Here one finds the well-told reminiscences of a very unusual man—an accurate observer, a penetrating thinker and a lover of all God's creatures, including men. Only by reading the book can one understand its rather astonishing popularity; and that is an experience which no physician can well afford to miss.

### Brothers: Medical Jurisprudence

**MEDICAL JURISPRUDENCE. A Statement of the Law of Forensic Medicine.** By Elmer D. Brothers, B. S., LL.B. Member of the Chicago Bar; Lecturer Emeritus on Jurisprudence in the Medical and Dental Departments of the University of Illinois, etc. Third Edition. St. Louis: C. V. Mosby Company. 1930. Price \$3.50.

Every practitioner of medicine should be acquainted with the aspects of law that affect him, and they are many. Mr. Brothers' book, now in its third edition, gives all the essential facts, with legal decisions on knotty points. The important matter of the physician as an expert witness is well treated.

The present edition is revised wherever necessary, in accordance with the most recent decisions. A work such as this should find a place on the bookshelf of every student of medicine and every practicing physician.

### Boas and Michelson: Chronic Diseases

**THE CHALLENGE OF CHRONIC DISEASES.** By Ernst P. Boas, M.D., Attending Physician, Montefiore Hospital for Chronic Diseases, and Nicholas Michelson, M.D., Adjunct Physician, Montefiore Hospital for Chronic Diseases. New York: The Macmillan Company. 1929. Price \$2.50.

People who are acutely ill were never so well cared for as they are at present; but the patient with a chronic and disabling disease is receiving wholly inadequate attention, and the

families of many of these patients are in a truly disastrous situation.

It has been the effort of the authors of this small volume to set forth the needs of chronically ill persons and of those upon whom they are dependent, in the hope of stimulating the interest of physicians in the medical features of the problem, and that of public health workers, sociologists and philanthropists in the human aspects of present conditions.

The chapters dealing with the economic and social factors in chronic diseases, and the present (wholly unsatisfactory) and possible methods of dealing with them, embody ideas which are not so familiar as they should be.

This is a book for those who deal with the large problems of medicine—humanitarians, both medical and lay.

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### Wells: Common Head Colds

**THE COMMON HEAD COLD AND ITS COMPLICATIONS.** By Walter A. Wells, A.M. M.D., F.A.C.S., Prof. of Otolaryngology, Georgetown University, Washington, D. C. With introduction by Hugh S. Cumming, M. D., Surgeon General, United States Public Health Service. New York: The Macmillan Company. 1929. Price \$2.75.

We have as yet no satisfactory scientific information regarding the precise cause of the common head cold. Dr. Wells' book is devoted to a consideration of the factors involved in "catching a cold," especially lowered resistance due to predisposing causes, and how to deal with such factors. The complications arising from colds are also discussed—adenoid, tonsil, sinus and voice disturbances. A method of home treatment is outlined.

The book is intended for the layman and, as a presentation of an interesting subject by a well qualified medical exponent, it may be recommended by physicians to such patients as might be benefited by it.

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### Warren: Anatomy

**WARREN'S HANDBOOK OF ANATOMY. From Original Dissections by John Warren, M.D., Late Associate Professor of Anatomy, Harvard Medical School. Text by Robert M. Green, M.D., Assistant Professor of Applied Anatomy, Harvard Medical School. Drawings by H. P. Aitken, Instructor of Drawing, Harvard University. Cambridge: Harvard University Press. 1930. Price \$5.**

This beautifully illustrated and printed book is a posthumous work, prepared from a series of 400 dissections and original drawings made therefrom under the direction of the late Dr. John Warren of the Harvard Medical School.

The volume is intended as a topographic atlas, with a descriptive text designed to adapt it as a handbook for dissection and as a work of reference for the surgeon and general practitioner. The material here presented is believed to be sufficiently adequate to meet the needs of a first year course in human anatomy.

The eight parts cover the head and neck, the trunk, upper and lower extremities, thorax, abdominal cavity, pelvic cavity and perineal region.

The typography, paper and general bookwork leave nothing to be desired. It is a high-class example of the printer's art.

### Rood and Webber: Anesthesia and Anesthetics

**ANESTHESIA AND ANESTHETICS.** By F. S. Rood, M.B., B.S. (*Dunelm*) Anesthetist to University College Hospital and H. N. Webber, M.A., B. Chir. (Cantab.), Anesthetist to University College Hospital. With 4 Black-and-White Plates and 56 Illustrations in the Text. New York: William Wood and Company. 1930. Price \$4.50.

A handy and concise manual dealing with the technicalities of the practice of anesthesia, suitable for the student or intern, or for the practitioner who occasionally acts as an anesthetist.

The book is written by two experienced anesthetists and is based particularly on their experience in the University College Hospital, London. They stress the anesthetist's share of responsibility in the performance of any surgical procedure, both as regards the suitability of the anesthetic agent selected and the control of its effects; also the importance of surgical teamwork by men who are accustomed to work with each other.

### Rockefeller Foundation Monographs on Medical Education

**METHODS AND PROBLEMS OF MEDICAL EDUCATION, Eighteenth Series.** New York: The Rockefeller Foundation, 61 Broadway. Gratis on Request.

The eighteenth series of the Rockefeller Foundation Monographs on Methods and Problems of Medical Education is devoted principally to descriptions of the methods of clinical laboratory teaching in the medical schools of various universities throughout the world.

These monographs aim to furnish precise information regarding medical education in different centers; the articles are written by those directly associated with the special work dealt with and are accompanied by plans of the buildings and photographs of the equipment, arrangement of rooms, etc.

This series forms an invaluable guide to those responsible for the planning of new buildings for medical schools or for alterations of old ones to bring them into line with the latest developments. They may be obtained free on application to the Foundation.

### Surgical Clinics of North America

**THE SURGICAL CLINICS OF NORTH AMERICA.** Pacific Coast Surgical Association Number. Volume 10, Number 5, October, 1930. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, February, 1930 to December, 1930: Paper \$12.00; Cloth \$16.00.

Number 5, Volume 10, October, 1930, of the Surgical Clinics of North America, is devoted to contributions from fellows of the Pacific Coast Surgical Association and contains 33 practical

papers. Dr. L. E. Eloesser of San Francisco, writes an excellent paper on the closure of bronchial fistula. The technic of thyroidectomy is well described and illustrated in a practical paper by Dr. B. T. King, of Seattle, and the same may be said of the clinics on thromboangiitis obliterans and abscess of the lung, by Dr. A. A. Matthews of Spokane and Dr. C. E. Phillips of Los Angeles, respectively.

Other conspicuous papers are the following: "Acute Nonhemorrhagic Pancreatitis," by Dr. J. E. Else, of the University of Oregon Medical School; "Three Unusual Manifestations of Infection of the Lymphatics," by Dr. J. R. Judd, of Honolulu; "Bronchobiliary Fistula," by Drs. A. O. and R. Loe, of Seattle; "Three Cases of Carcinoma of the Kidney," by Dr. A. J. Scholl, of Los Angeles; and "Cancer of the Thyroid," by Drs. C. G. Toland and W. P. Kroger, of Los Angeles.

A valuable series for the man who is far from the clinics.

### Freud: Psychopathology

**PSYCHOPATHOLOGY OF EVERYDAY LIFE.** By Professor Dr. Sigmund Freud, LL.D., Authorized English Edition, With Introduction by A. A. Brill, Ph.B., M.D., Chief of Clinic of Psychiatry, Columbia University; Chief of the Neurological Department, Bronx Hospital and Dispensary; former Assistant Physician in the Central Islip State Hospital, and in the Clinic of Psychiatry, Zurich, New York: The Macmillan Company. 1930. Price \$3.75.

Anyone reading carefully Freud's work, says Brill, cannot fail to become intimately acquainted with him and his family. This is particularly true of "Psychopathology of Everyday Life." The book teems with examples drawn from the author's life and clinical experiences.

As this supreme magician interprets cases of the forgetting of names and resolutions, mistakes in speech, chance actions, etc., one is made to realize that there is nothing arbitrary or undetermined in the psychic life. Every slip of the tongue or the pen, and also of the foot, strange as it may seem, has its significance; every vagary is a manifestation of our inner consciousness, a groping for the realization of a wish.

Moving in a circle of psychoanalysts would, no doubt, prove embarrassing. Unconsciously one would become a "subject" to them, and every *fau pas* is, to them, a glimpse into one's inner thought.

Freud himself, because of his occupation, says that he can scarcely lie any more; as often as he attempts a distortion, he succumbs to an error that betrays his dishonesty. As a result of reading Freud we saved ourselves from an awkward situation. We were invited to dinner one time and, before we committed ourselves, our would-be host told us about a dream where we figured sailing to distant shores. This we interpreted to mean that the invitation tendered to us was made under duress and that we were not particularly wanted. Of course, we declined.

"Psychopathology of Everyday Life" is the kind of a book that helps one meet these aspects of life with intelligence and alertness. It is

eminently readable and free from the jargon of the trade. Its perusal is most rewarding, especially to physicians, if they can keep from being carried away into some of the author's indefensible positions.

S. E.

### Benthin: Gynecologic Diagnosis

DIAGNOSE UND DIFFERENTIALDIAGNOSE DER FRAUENKRANKHEITEN. Von Dr. Walther Benthin, a.o. Professor in der Albertus-Universität und leitender Arzt der Abteilung für Frauenkrankheiten und Geburtshilfe am Städtischen Krankenhaus zu Königsberg i. Pr. Mit 101 Abbildungen im Text und 48 Tafeln. Berlin und Wien: Urban & Schwarzenberg, 1930. Price geh. RM 50.—geb. RM 55.—

Dr. Benthin's synopsis of differential diagnosis of gynecologic diseases is intended as a continuation of the principles enunciated in the more pretentious work of the late Professor Winter, his former teacher, a book now out of print. It deals especially with the diagnosis of diseases which call for surgical relief.

There are two parts: the first, short, covers the general principles; the second, which forms the bulk of the book, takes up systematically the diseases of the special organs of the female. The main symptomatology and differentiating points are clearly and pithily discussed and there are a number of excellent illustrations, including many colored plates, which aid materially in visualizing the conditions described.

This is an excellent and concise exposition which should be of great value to gynecologists and general practitioners who read German.

### McDonald: English and Science

ENGLISH AND SCIENCE. By Phillip B. McDonald, Associate Professor of English, College of Engineering, New York University. 2nd Printing. New York: D. Van Nostrand Company, Inc. 1930. Price \$2.00.

It is surprising how often one finds scientific men, precise and clear in their work and able to pursue each step of it logically, who fail when they wish to convey to others in writing the fruits of their thoughts and actions. One would think that habits of methodical sequential thought and procedure would predispose to orderly and clear writing, but it is more or less exceptional to find them combined.

Nevertheless, men engaged in scientific pursuits are constantly writing and perhaps more so in the science of medicine than in any other field. Mr. McDonald's book on the use of English in scientific writing is, therefore, very timely and medical authors will discover in it much that they will find valuable.

The best kind of writing is the simplest; the fact that a subject is what is called technical does not necessarily mean that descriptions must be labored and garnished with a wealth of high

sounding words and phrases, when simple and easily-understood terms will fully explain the meaning just as well. The same applies to long, verbose and befogging sentences.

Mr. McDonald tries to impress the principles of simplicity and conciseness as essential to clear scientific writing and he shows how this mode of expressing one's thought should be cultivated by scientific writers, rather than the academic, rhetorical and ornate language more suitable to the newspaper and magazine writer.

There are six chapters in this book, which show how technical business letters, reports and scientific articles should be written. Every chapter contains matter that might be assimilated with profit by contributors to the medical press and would make such contributions more readily acceptable to medical editors.

### Broadhurst & Given: Bacteriology For Nurses

BACTERIOLOGY APPLIED TO NURSING. A Combined Textbook and Laboratory Guide In Microbiology. By Jean Broadhurst, Ph. D., Professor of Bacteriology, Teachers College, Columbia University and Leila I. Given, R.N., M.S., Instructor of Bacteriology, School of Nursing, Western Reserve University. Philadelphia and London: J. B. Lippincott Company. 1930. Price \$3.00.

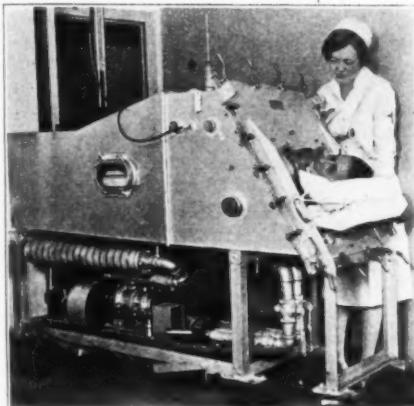
Sometimes one cannot see the wood "for the trees." In looking over this textbook and laboratory guide in microbiology, intended for nurses, one might be pardoned for wondering if, owing to the variety and extent of the specialities now being included in the curriculum for the nurse's education, the main object of the work—nursing—may not be jeopardized. Knowledge is, of course, a most excellent thing, but nurses who may wish to become laboratory technicians have opportunities and books available for that special study.

This general criticism has however nothing to do with the excellence of the particular book under review. It is a thorough presentation of elementary applied bacteriology or rather, as the authors wish, of microbiology.

The work follows a five-part construction scheme as follows: First, the fundamental, preliminary material, microscope, cells, helpful and harmful organisms; second, definite information regarding bacteria and protozoa and other micro-organisms; third, the role of bacteria in our general environment; fourth, micro-organisms and disease; fifth, anaphylaxis and the many tests now routine in many hospitals.

The text is enriched with numerous illustrations which make it easy to follow, and as a teaching manual it is quite evident that it has been very conscientiously written so as to provide maximum information concerning a wide field in a limited space. The printing and general get-up of the book has been well done and the price is moderate.

# MEDICAL NEWS



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## A Breathing Machine

When paralysis of the respiratory muscles occurs, the artificial respiration necessary to keep the patient alive has, heretofore, been almost out of the question, as it must be continued for days or even weeks.

The Drinker mechanical respirator (shown above) has solved the problem. Alternate positive and negative pressure within the cabinet keeps up the respiratory movements without any assistance from the nervous system.

The patient in the cabinet is Miss Frances McGaan, of Chicago, who spent 40 days in this apparatus, and, for several weeks more, a gradually decreasing part of each day until her recovery.

## Drs. Whipple and Minot Awarded \$10,000 Prize

Dr. G. H. Whipple, professor of pathology in the School of Medicine and Dentistry of the University of Rochester, and Dr. G. R. Minot, professor of medicine at the Harvard University Medical School, are the first to be awarded the *Popular Science Monthly* annual prize of \$10,000

for the current achievement in science of the greatest benefit to the public. The winners were chosen in recognition of their discovery of a positive cure (liver treatment) for pernicious anemia. The selection was made by a committee of twenty-one outstanding American scientists, of which Professor Collins P. Bliss, associate dean, New York University, is director. The prize is equally divided between the two recipients.

Dr. Whipple discovered the principles of the liver treatment and Dr. Minot perfected its clinical application to pernicious anemia patients.

## Parenteral Medication Competition

The vote of our readers on the merits of the essays on parenteral medication, which appeared in our November, 1930, issue, gives the first prize to Dr. W. Forest Dutton, for his article "Parenteral Medication"; the second to Dr. D. L. Tabern, for "Parenteral Anesthesia with the Barbiturates"; and the third to Dr. Edmund D. Levisohn, for "Technic of Intravenous Therapy." Checks for the amounts of the prizes have been sent to the successful competitors.

## Medical Reserve Officers

It is certain that, in the present session of Congress, the pacifists and radicals will endeavor to procure legislation to hamstring the Officers Reserve Corps, the R. O. T. C. and the C. M. T. C., by cutting down the already inadequate appropriations for these activities.

All Medical Reserve officers, and all others who are interested in sane and reasonable preparedness for a national emergency, should write or telegraph, *at once*, to their senators and representatives, warning them to watch for bills of this kind and urging them not merely to work and vote against them, but to use their full influence to procure a larger appro-

priation for this work which is so vital to our country's safety and that of every citizen.

SEND FOR THE 1930 INDEX TODAY.

Ethical Dental Advertising

The dentists of Little Rock, Ark., and the surrounding territory have recently conducted a campaign of ethical, educational advertising which has proved so successful that they consider continuing it indefinitely. The copy used was prepared by a local advertising agency and sponsored by the Dental Educational Committee. No personal references to any individual dentists were made.

Journal of Cancer

A new periodical, the *American Journal of Cancer* is appearing, and the first issue will probably be off the presses before this reaches our readers, with 500 pages of text and many colored illustrations. It will be an international presentation of the newest findings on malignant disease.

The production of such a magazine is very expensive and would scarcely have been possible without the financial support which has been given it by the Chemical Foundation, of New York, which is sponsoring and assisting many important research projects.

Stomatologists to Meet

The American Society of Stomatologists will celebrate the eighth anniversary of the stomatologic movement in America, at a meeting to be held at the Hotel McAlpin, New York City, April 16 and 17, 1931. At this meeting the program for the first international stomatologic congress, to be held in Budapest next September, will be discussed.

Cancer Campaign in Massachusetts

As a result of a vigorous campaign of cancer education, by the Massachusetts Department of Health, it is estimated that 80 percent of the people in that State who have cancer have been seen by physicians.

Committee on Costs of Medical Care

Announcement was recently made of the appointment of two new consultants of the Committee on the Costs of Medical Care: Dr. John M. T. Finney, of Baltimore, professor of clinical surgery in the medical school of Johns Hopkins University, and Dr. David Riesman, of Philadelphia, professor of clinical medicine in the medical school of the University of Pennsylvania and physician to the Philadelphia General and University Hospitals. Dr. Finney and Dr. Riesman join Dr. Roger I. Lee, consultant in internal medicine, of Brookline, Mass., as consultants of the Committee.

SEND FOR THE 1930 INDEX TODAY.

United States Civil Service Examinations

The United States Civil Service Commission announces the following-named open competitive examination:

*Junior Medical Officer (Intern)*

Applications must be on file with the Manager of the Fourth U. S. Civil Service District, Washington, D. C., not later than February 14, 1931.

This examination is to fill vacancies in Saint Elizabeth's Hospital, Washington, D. C.

The Commission is also in need of eligibles to fill the following-named medical officer positions:

*Acting assistant surgeon, United States Public Health Service, Galveston, Texas.*

*Acting assistant surgeon qualified in trachoma work, United States Public Health Service, Ellis Island, N. Y.*

*Acting assistant surgeon for work in pathology, United States Public Health Service, Ellis Island, N. Y.*

*Medical officer qualified in neuropsychiatry, Veterans' Bureau, San Francisco, Calif.*

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

## Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physician's supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is

to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

K- 3	Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.	K-318	Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D. Battle & Company.
K- 45	Vera-Perles of Sandelwood Comp. Paul Plessner Co.	K-347	Graphic Chart of the Treatment of Circulatory Disturbances. Merck & Company.
K- 47	Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.	K-354	Getting the Most Out of Life. Stanco, Inc.
K- 95	Everything for the Sick. Lindsay Laboratories.	K-374	Table for Determining Date of Delivery. The Viburno Company, Inc.
K-116	Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.	K-383	Syrup Histosan Controls the Cough In Acute and Chronic Bronchitis, Pneumonia and other Pulmonary Diseases. Ernst Bischoff Co., Inc.
K-120	Building Resistance — Guiatonic. William R. Warner & Co., Ltd.	K-391	Imhotep. Egyptian Medicine Was a Quaint Mixture of Rationalism and Magic — Agarol. William R. Warner & Co., Inc.
K-156	Siomine (Methenamine Tetraiodide). Pitman-Moore Company.	K-392	Arthritis. Its Classification and Treatment. Battle & Co.
K-196	"Facts Worth Knowing." Intravenous Products Co. of America, Inc.	K-401	When the Cross Roads are Reached in Hemorrhoids (Piles). Schering & Glatz, Inc.
K-244	I Am Oxiphen. Pitman-Moore Co.	K-402	The First Question—Agarol. Wm. R. Warner & Co., Inc.
K-258	Prophylaxis. August E. Drucker Co.	K-404	Urotropin, the Intravenous Administration of the Original Formaldehyde-Liberating Urinary and Systemic Antiseptic. Schering & Glatz.
K-269	Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc.	K-410	Acidosis. A Warning Sign in Pregnancy—Alka-Zane. Wm. R. Warner & Co., Inc.
K-271	The Intestinal Flora. The Battle Creek Food Company.		
K-292	Acidosis and Infection—Alka Zane, William R. Warner & Co., Inc.		
K-310	Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton & Co.		

K-412 The New Colloidal Antacid. The Wander Co.

K-414 Laboratory Test in Pictures—Silvogon. Ernst Bischoff Company, Inc.

K-425 Cerebrospinal Fever (Epidemic, Cerebrospinal Meningitis, Meningococcic Meningitis, Spotted Fever), Symptoms and Specific Treatment with Anti-Meningococcic Serum. The National Drug Co.

K-443 AbilenA. Its Location, Discovery, Origin, Chemistry, Medicinal or Clinical Value and Uses. The AbilenA Co.

K-446 Dependable Products, Pan-Secretin Co., Adreno-Spermin Co., Lydin and Pancreas Co. The Harrower Laboratory, Inc.

K-449 General Catalog of Medicinal Chemicals. Bilhuber-Knoll Corp.

K-455 AbilenA, The Ideal Cathartic Water. The AbilenA Co.

K-456 Science Applied to Tobacco. Health Cigar Company, Inc.

K-465 Diagnosis of Cardio-Vascular Diseases, by Henry Irving Berger, M.D. Sultan Drug Company.

K-467 Diagnosis of Genito-Urinary Diseases and Syphilis by Henry I. Berger, M.D., Od Chemical Co.

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